

Initial Study/  
Proposed Mitigated Negative Declaration  
Stone Street Water Right  
Application: 31050 (A031050)



Prepared for:  
Division of Water Rights  
State Water Resources Control Board

**AECOM**

April 2013

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Proposed Mitigated Negative Declaration  
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Prepared for:  
Division of Water Rights  
State Water Resources Control Board

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April 2013

# TABLE OF CONTENTS

Section	Page
Initial Study/Proposed Mitigated Negative Declaration.....	1
I. Background .....	1
Introduction .....	1
Project Description .....	2
Project Background .....	5
Environmental Setting and Baseline.....	6
Public Trust Doctrine and California Water Right Law .....	7
Responsible, Trustee, and Federal Agencies .....	9
II. Environmental Impacts.....	10
1. Aesthetics .....	11
2. Agricultural and Forest Resources .....	13
3. Air Quality .....	16
4. Biological Resources .....	22
5. Cultural Resources.....	39
6. Geology and Soils.....	43
7. Greenhouse Gas Emissions .....	46
8. Hazards and Hazardous Materials .....	48
9. Hydrology and Water Quality .....	51
10. Land Use and Planning.....	55
11. Mineral Resources .....	56
12. Noise.....	57
13. Population and Housing.....	59
14. Public Services .....	60
15. Recreation.....	61
16. Transportation/Traffic .....	62
17. Utilities and Service Systems .....	63
18. Mandatory Findings of Significance .....	64
III. Determination.....	66
IV. References .....	67

## **Exhibits**

Exhibit 1	Project Vicinity .....	3
Exhibit 2	Project Location and Topography .....	4
Exhibit 3	POU Land Use and POD .....	8

## **Tables**

Table 1	Proposed Place of Use.....	2
Table 2	Summary of Existing Water Rights.....	5
Table 3	CEQA Baseline and Proposed Project Components.....	7
Table 4	Ambient Air Quality Standards and Designations.....	18
Table 5	Summary of 2008 Estimated Emissions Inventory for Criteria Air Pollutants and Precursors (Sonoma County).....	20
Table 6	Special-Status Plant Species with Potential to Occur in the POU and Immediate Vicinity.....	24
Table 7	Special-Status Wildlife with Potential to Occur in the POU and Immediate Vicinity.....	28

## Acronyms and Abbreviations

AB	Assembly Bill
afa	acre-feet per annum
Applicant	Jackson Wine Estates Vineyards
BMPs	best management practices
CAAQS	California ambient air quality standards
CARB	California Air Resources Control Board
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFCs	chlorofluorocarbons
CFII	Cumulative Flow Impairment Index
cfs	cubic feet per second
CH <sub>4</sub>	methane
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
DFW	California Department of Fish and Wildlife
Division	Division of Water Rights
DPS, formerly ESU	steelhead distinct population segment
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
GHG	greenhouse gas
Msl	mean sea level
N <sub>2</sub> O	nitrous oxide
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO <sub>2</sub>	nitrogen dioxide
NOAA Fisheries	National Oceanic and Atmospheric Administration Fisheries Service
NSAPCD	Northern Sonoma Air Pollution Control District
NWIC	Northwest Information Center
Ozone	photochemical smog
PAH	polycyclic aromatic hydrocarbons
PM	particulate matter
PM <sub>10</sub>	particulate matter with an aerodynamic diameter of 10 micrometers or less
PM <sub>2.5</sub>	fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less

POD	point of diversion
POI	point of interest
POU	place of use
ppm	part per million
PRMD	Permit and Resource Management Department
proposed project	Application 31050
RWQCB	Regional Water Quality Control Board
SO <sub>2</sub>	sulfur dioxide
TU	Trout Unlimited of California
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VESCO	Vineyard Erosion and Sediment Control Ordinance
WAA	water availability analysis

**STATE WATER RESOURCES CONTROL BOARD  
DIVISION OF WATER RIGHTS  
P.O. BOX 2000  
SACRAMENTO, CA 95812-2000**

**INITIAL STUDY/PROPOSED MITIGATED NEGATIVE  
DECLARATION**

**I. BACKGROUND**

PROJECT TITLE: Stone Street Water Right Application: 31050 (A031050)

APPLICANT: Jackson Family Investments, LLC  
1190 Kitty Hawk Boulevard  
Santa Rosa, CA 95403

APPLICANT'S CONTACT PERSON: Diane Willson  
Napa Valley Vineyard Engineering, Inc.  
176 Main Street, Suite B  
St. Helena, CA 94574  
707/963-4927

General Plan Designation: Land Intensive Agriculture

Zoning: Land Extensive Agricultural

**INTRODUCTION**

The project vineyard is located along Chalk Hill Road in Alexander Valley approximately 0.8 mile south of Highway 128 at the intersection of Chalk Hill Road and Thomas Road (Exhibit 1). The project site is located approximately 200 feet above mean sea level (msl) in elevation and within portions of projected Sections 16, 17, and 20, Township 9N, Range 8W of the "Mount St. Helena, California," "Jimtown, California," and "Healdsburg, California" U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles. The project site includes the point of diversion (POD) intake, pump structure, and conveyance facilities on Maacama Creek, and covers approximately 136 gross acres (of which 132 acres are vineyards) within the Maacama Creek watershed along Chalk Hill Road, Thomas Road, and Young Road (Exhibit 2).

Application 31050 (proposed project) was filed with the State Water Resources Control Board (State Water Board), Division of Water Rights (Division) on March 20, 2000 and was accepted on May 12, 2000. Application 31050 currently seeks to appropriate a total of 156 acre-feet per annum (afa) of water from Maacama Creek thence the Russian River, for storage behind an existing onstream dam (having a capacity of 156 acre-feet [af]). Application 31050 does not seek additional water for the existing project, but seeks to add the existing Maacama Creek POD (authorized under License 5674) as a supplemental source for the wintertime diversion to storage in the existing 156 af reservoir (authorized under License 5368).

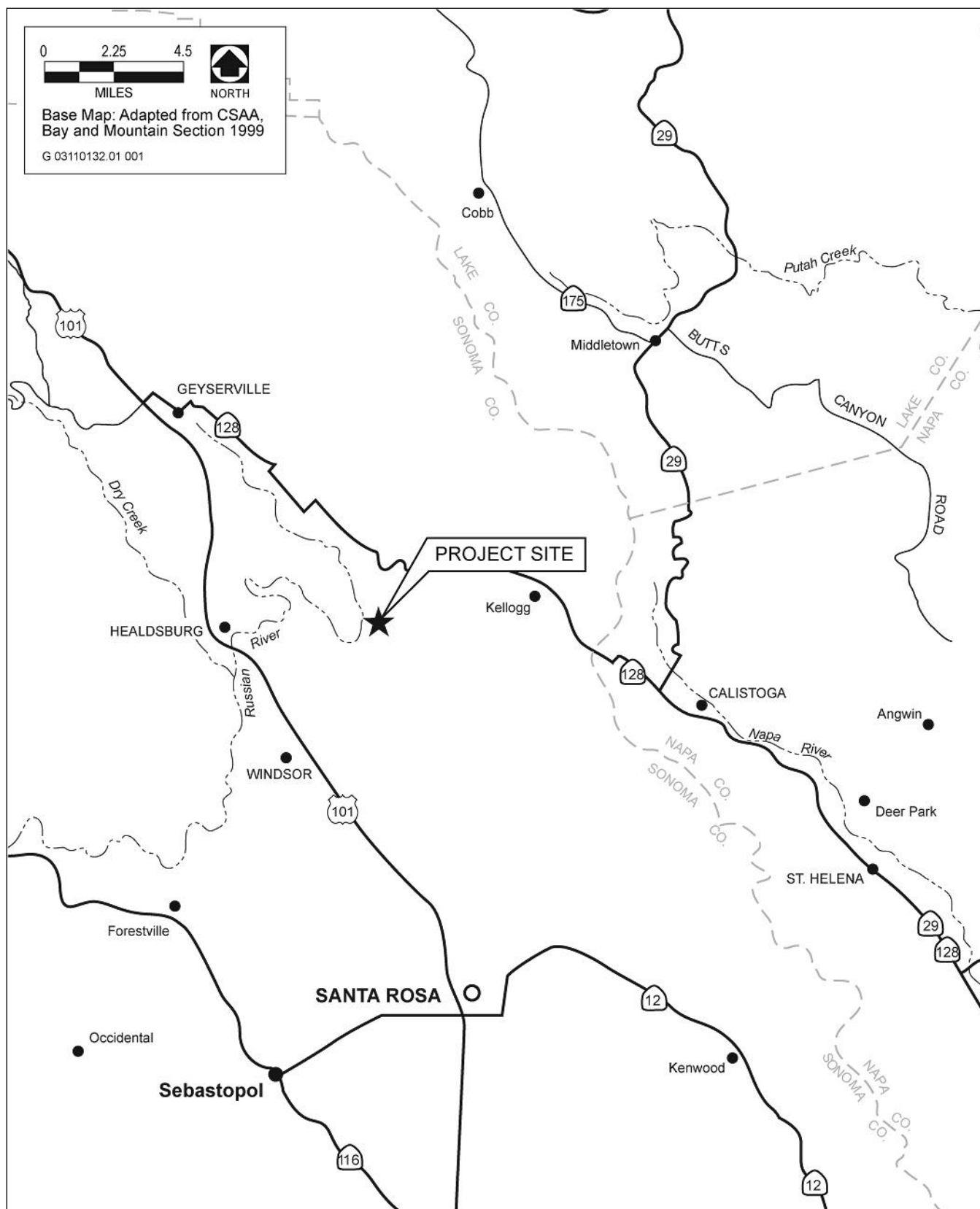
## PROJECT DESCRIPTION

As amended – Application 31050 proposes:

- ▶ The seasonal diversion of up to 156 afa from Maacama Creek thence the Russian River, at a rate of up to 2.5 cubic feet per second (cfs). The POD is located within SE ¼ of NW ¼ of Section 20, Township 9 North, Range 8 West, MDB&M. The place of storage (onstream reservoir) is located within NE ¼ of NE ¼ of Section 20, Township 9 North, Range 8 West, MDB&M. The requested POD is an existing POD authorized under License 5674 (Application 13533) and the requested place of storage is authorized under License 5368 (Application 14735).
- ▶ A diversion season of December 15 to March 30.
- ▶ The place of use (POU) consists of 132 acres of vineyard, of which 122 acres are existing and 10 acres are tilled and unplanted. Proposed water use includes irrigation and frost protection.
- ▶ Acreage distributions within the POU are noted in Table 1 below.

<b>Table 1</b> <b>Proposed Place of Use</b>					
Use Within	Section	Township	Range	B & M	Acres
NW ¼ of NE ¼	20*	9N	8W	MD	20
NE ¼ of NE ¼	20*	9N	8W	MD	20
SE ¼ of NE ¼	20*	9N	8W	MD	15
NE ¼ of NW ¼	20*	9N	8W	MD	6
SE ¼ of NW ¼	20*	9N	8W	MD	3
SW ¼ of NE ¼	20*	9N	8W	MD	35
NW ¼ of SE ¼	20*	9N	8W	MD	15
NE ¼ of SW ¼	20*	9N	8W	MD	1
SE ¼ of SE ¼	17*	9N	8W	MD	14
NE ¼ of SE ¼	17*	9N	8W	MD	1
SW ¼ of SW ¼	16*	9N	8W	MD	2
				Total	132
Source: Petition for Change Application 31050 to Appropriate Water by Permit, 2004 *Section number is projected					

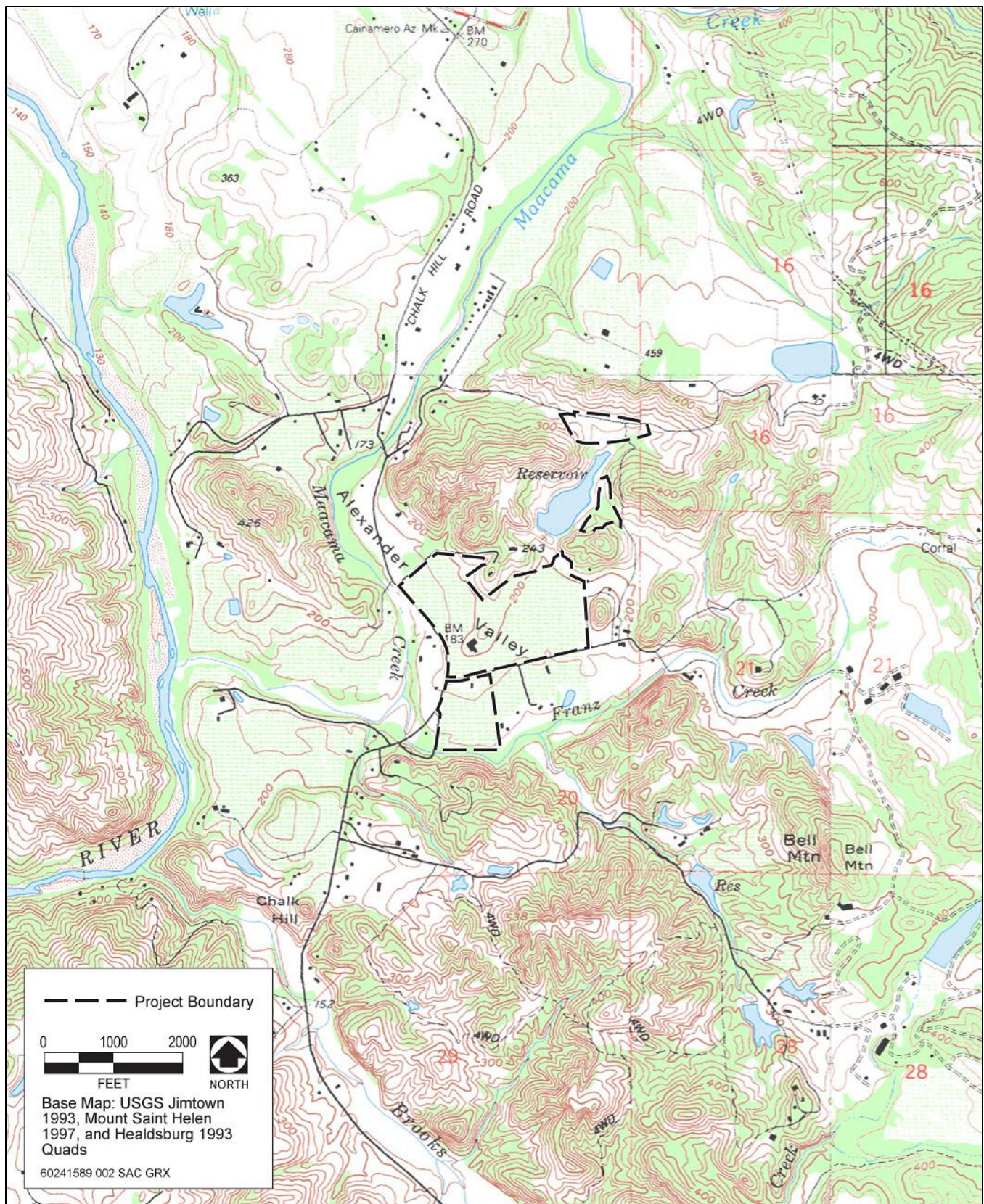
Jackson Wine Estates Vineyards (Applicant) plans to upgrade the existing POD structure and conveyance facilities (i.e., replace the existing overland pipe with a slightly larger pipe) to allow water diverted under Application 31050 to be discharged directly into the existing 156 af capacity reservoir. The diversion pump at the POD would not be activated until December 15 of each year thereby bypassing all flows in Maacama Creek. During the diversion season, on or after December 15, the diversion pump would be activated, and then deactivated on or before March 30 of the following year. When the reservoir is full or when the total water diverted is equivalent to 156 af, whichever occurs first, the diversion pump would shut down and would remain



Source: Adapted by AECOM in 2009

## Exhibit 1

## Project Vicinity



Source: Adapted by AECOM in 2009

## Exhibit 2

## Project Location and Topography

off unless the water level in the reservoir is drawn down for frost protection or irrigation (if total water diverted during the season was less than 156 af). The combined diversion to storage between License 5368 and pending Application 31050 would not exceed 156 afa. The diversion pump may be turned on between April 15 and October 15 only if water is being diverted under License 5674.

The Applicant owns the subject property and currently holds the following three water right licenses: License 5674 (Application 13533), License 5368 (Application 14735), and License 10850 (Application 21783A) (see Table 2 for summary). There is one existing reservoir on the property built pursuant to License 5368, which is located on an Unnamed Stream tributary to Franz Creek, and two existing PODs: one on Maacama Creek built pursuant to License 5674 and one on Franz Creek built pursuant to License 10850.

<b>Table 2</b> <b>Summary of Existing Water Rights</b>			
<b>Water Right</b>	<b>Location</b>	<b>Amount</b>	<b>Season</b>
License 5674 (Application 13533)	POD on Maacama Creek	Direct Diversion of 0.28 cfs*	April 15 to October 15
License 5368 (Application 14735)	Reservoir on Unnamed Stream tributary to Franz Creek	Diversion to storage of 156 af*	November 1 to May 1
License 10850 (Application 21783A)	POD on Franz Creek	Direct Diversion of 0.22 cfs, up to 26 afa	May 1 to October 31
*The total amount of water diverted under License 5674, License 5368, and Application 31050 combined will be limited to 208 af per year. Source: Jackson Wine Estates Vineyards			

## PROJECT BACKGROUND

As originally filed, Application 31050 requested the diversion of 156 afa from an existing POD on Maacama Creek to offstream storage. Water would be used for irrigation of 126 gross acres of existing vineyard, including 122 acres of vineyard; 4 acres contained the existing POD structure and conveyance facilities. The diversion season would be from December 15 to March 30 of each year.

On August 18, 2004, the Applicant submitted a Petition for Change for Application 31050 to change the POU, which would add 10 acres of tilled and unplanted vineyard to the original project site. The additional acres of vineyard were tilled and unplanted at the time the original application was filed in 2000. On May 26, 2011, the Applicant requested that the 4 acres of land that contain the existing POD structure and conveyance facilities be removed from the application because these acres would not be irrigated.

A public notice was issued for Application 31050 on September 15, 2000. Four protests (see below) were filed against the proposed project at that time: the California Department of Fish and Wildlife (DFW), U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and Trout Unlimited of California (TU). Following the public notice of the petition for change on May 17, 2007, additional protests were received from DFW, Craig M. Enyart, and Jamie Zukowski. The protest filed by Craig M. Enyart was not filed in a timely manner and was therefore rejected on September 7, 2007. All other protests remain unresolved.

DFW expressed concerns about the proposed project resulting in negative effects on steelhead trout and coho salmon in Maacama Creek and on downstream aquatic and riparian resources associated with reduced stream flows during critical periods (Floerke, October 2000).

USFWS expressed concerns about the proposed project potentially resulting in take of a federally listed species, California freshwater shrimp (*Syncaris pacifica*) (Miller, October 2000).

NMFS expressed concerns about the proposed project resulting in negative effects on coho salmon and steelhead in the Maacama Creek and Russian River watershed, negative effects associated with potential reduction or interruption of streamflows in downstream reaches, concerns with the minimum bypass flow, the cumulative effect of this proposed project and other existing projects, and the effect of diversion structures on fish passage (Bybee, October 2000).

TU expressed concerns about downstream fish habitat being negatively affected by the proposed project (Griffin, October 2000).

DFW's second protest letter following the public notice of the petition for change expressed concerns about the proposed project resulting in negative effects on steelhead trout and coho salmon in Maacama Creek and the Russian River and on downstream aquatic and riparian resources associated with reduced stream flows during critical periods (Armor, June 2007).

Jamie Zukowski expressed concerns about the proposed project resulting in over-allocation of water for irrigation and frost protection within the Maacama Creek watershed and negative effects on aquatic species resulting from reduced flows (Zukowski, June 2007).

In Spring 2000, the 10 acres of tilled and unplanted land, at the time of the submittal of the petition, were planted in accordance with a Sonoma County Vineyard Erosion and Sediment Control Ordinance (VESCO) application and permit.

## **ENVIRONMENTAL SETTING AND BASELINE**

The proposed project is located in Alexander Valley within the North Coast Range Mountains approximately 4 miles east of the City of Healdsburg in Sonoma County, California (see Exhibit 1). Sonoma County is characterized by a Mediterranean climate with cool winters and hot, dry summers. Alexander Valley, which comprises the valley floor and numerous streams, is also strongly influenced by the coastal environment. The average annual temperature for the valley varies from 45 to 90 degrees Fahrenheit with an average annual precipitation of 30 inches per year.

Established vineyards or tilled and unplanted vineyards occupy approximately 132 acres of the POU. In support of these agricultural activities, there are existing water diversion and water storage facilities located at the project site. According to the Sonoma County Zoning Ordinance, the zoning designation for the project site is Land Extensive Agriculture. The surrounding area is composed of both developed and undeveloped land including rural residences, rangeland, oak savanna, annual grassland, perennial drainages, and vineyards.

Water Right Application 31050 was filed on March 20, 2000; therefore, the California Environmental Quality Act (CEQA) baseline for Application 31050 is March 20, 2000. Exhibit 3 shows the POU in 2000 and provides

evidence of existing project components in place in 2000. The POU, at the time of the CEQA baseline, was characterized by 122 acres of existing vineyards, 10 acres of tilled and unplanted agricultural land located adjacent to Young Road at the northernmost portion, the POD structure and conveyance facilities along Maacama Creek, the pipeline between the existing POD structure and conveyance facilities, and a 156 af capacity reservoir.

Project components that are subject to environmental review are limited to those that were undeveloped at the time of the CEQA baseline date. The following project elements are not considered part of the CEQA baseline and are evaluated as the proposed project under CEQA: diverting 156 af of water per year from Maacama Creek between December 15 and March 30 of each year, upgrading the existing POD pumping and conveyance facilities, and planting vineyard on 10 acres of tilled and unplanted agricultural land (see Exhibit 3, Proposed POU). Table 3 provides an overview of project features in relation to the CEQA baseline.

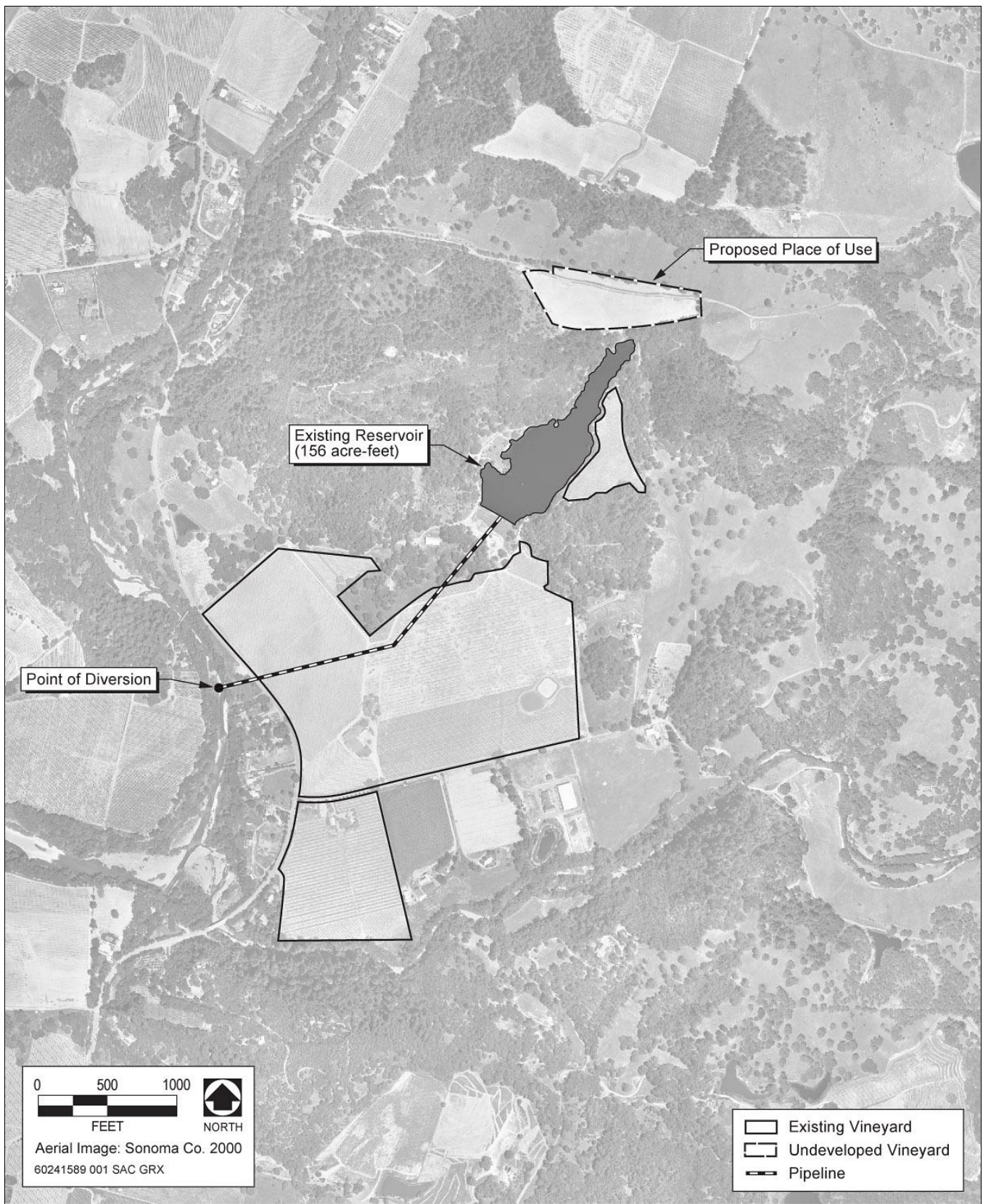
<b>Table 3</b> <b>CEQA Baseline and Proposed Project Components</b>	
<b>Existing Conditions</b> <b>at CEQA Baseline (March 20, 2000)</b>	<b>Proposed Project Components</b>
The existing POD on Maacama Creek and the existing pumping and conveyance facilities that would be employed to deliver water to the reservoir	Diverting 156 af of water from Maacama Creek between December 15 and March 30 of each year
10 acres of tilled and unplanted agricultural land	Planting vineyard on 10 acres of tilled and unplanted agricultural land
Existing pipeline between the POD structure and facilities and the 156 af capacity existing reservoir	Upgrading the existing POD pumping and conveyance facilities
122 acres of existing vineyards	
Sources: Sonoma County 2000, Jackson Wine Estates Vineyards	

## PUBLIC TRUST DOCTRINE AND CALIFORNIA WATER RIGHT LAW

Under the public trust doctrine, certain resources are held to be the property of all citizens and subject to continuing supervision by the State. Originally, the public trust was limited to commerce, navigation, and fisheries, but over the years the courts have broadened the definition to include recreational and ecological values. In a landmark case, the California Supreme Court held that California water right law is an integration of both public trust and appropriative right systems, and that all appropriations may be subject to review if “changing circumstances” warrant their reconsideration and reallocation.

The State Water Board must balance the potential value of a proposed or existing water diversion with the impact it may have on the public trust. After carefully weighing the issues and arriving at a determination, the State Water Board is charged with implementing the action which would protect the latter. The State Water Board will also consider the public trust doctrine in reaching its conclusions regarding the proposed project (A031050).

The Initial Study (IS) analyzes the impacts of the proposed project (A031050) under CEQA, including effects to public trust resources from the proposed supplemental diversion from December 15 to March 30 from the POD on Maacama Creek.



Source: Adapted by AECOM in 2012

### Exhibit 3

### POU Land Use and POD

## **RESPONSIBLE, TRUSTEE, AND FEDERAL AGENCIES**

The State Water Board is the lead agency under CEQA with the primary authority for project approval. In addition, the following responsible, trustee, and federal agencies may have jurisdiction over all or some portion of the proposed project:

- ▶ County of Sonoma – County Use Permit
- ▶ DFW Compliance – Streambed Alteration Agreement, California Endangered Species Act (CESA)
- ▶ California Regional Water Quality Control Board (RWQCB) – Clean Water Act Section 401 Water Quality Certification
- ▶ USFWS – Federal Endangered Species Act (ESA) Compliance
- ▶ NMFS – ESA Compliance
- ▶ U.S. Army Corps of Engineers (USACE) – Clean Water Act Section 404 Compliance

## II. ENVIRONMENTAL IMPACTS

The environmental factors checked below could be potentially affected by this project and are discussed in detail in the following analysis.

<input checked="" type="checkbox"/> Aesthetics	<input checked="" type="checkbox"/> Agriculture and Forestry Resources	<input checked="" type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input checked="" type="checkbox"/> Geology / Soils
<input checked="" type="checkbox"/> Greenhouse Gas Emissions	<input checked="" type="checkbox"/> Hazards & Hazardous Materials	<input checked="" type="checkbox"/> Hydrology / Water Quality
<input type="checkbox"/> Land Use / Planning	<input type="checkbox"/> Mineral Resources	<input type="checkbox"/> Noise
<input type="checkbox"/> Population / Housing	<input type="checkbox"/> Public Services	<input type="checkbox"/> Recreation
<input type="checkbox"/> Transportation / Traffic	<input type="checkbox"/> Utilities / Service Systems	<input checked="" type="checkbox"/> Mandatory Findings of Significance

# 1. AESTHETICS

ENVIRONMENTAL ISSUES		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>I. Aesthetics. Would the project:</b>					
a)	Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## ENVIRONMENTAL SETTING

The POU is located in the Coastal Mountain Range of Sonoma County. Primary views of the POU originate from Chalk Hill Road and Young Road which are both adjacent to the proposed project. The proposed upgrades to the POD from Maacama Creek are visible from Chalk Hill Road and from Young Road. The 10-acre portion of the POU proposed for planting as a vineyard is located at the bottom of a “bowl” (i.e., lower elevation) with hills rising on all sides. Adjacent to this 10-acre portion is Young Road and Tre Monte Lane, which both provide direct, eye-level views of this portion by passing motorists. In addition, five residences located at higher elevations and located within visual range of the POU also potentially have unimpeded views of the 10-acre portion.

## DISCUSSION

### a) Have a substantial adverse effect on a scenic vista?

Scenic vistas in the vicinity of the project area primarily include views of oak trees, oak shrubs, and vineyards. The proposed vineyard, if planted on the 10-acre portion of the POU, would add an existing, common visual element (e.g., vineyard) to the area’s scenery. Planting a vineyard would not create an obtuse visual element or visibly stand out from surrounding land uses. Also, activities associated with the point of diversion would only involve upgrading existing pumping structure and conveyance facilities and would not involve constructing any new structures or facilities that could result in physical changes to the environment (i.e., scenic vista). For these reasons, the proposed project would have a less-than-significant impact on a scenic vista.

### b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The 10-acre portion of the POU that would be planted with vineyards was previously tilled and prepared for planting. No scenic resources are located on the 10-acre portion. Planting the vineyard would not require removal or demolition of any scenic resources. Also, activities associated with the upgrade of the POD would only involve

upgrading existing pumping structure and conveyance facilities and would not involve constructing any new structures or facilities that could result in physical changes to the environment (i.e., scenic resources). For these reasons, scenic resources would not be damaged with implementation of the proposed project. No impact would occur.

**c) Substantially degrade the existing visual character or quality of the site and its surroundings?**

Visual character in the vicinity of the project area primarily includes views of oak trees, oak shrubs, rural residences, and vineyards. The proposed vineyard on the 10-acre portion of the POU would add an existing, common visual element (e.g., vineyard) to the area's visual character. Planting a vineyard on that portion would not create an obtuse visual element or visibly stand out from surrounding land uses. Also, activities associated with the upgrade of the POD would only involve upgrading existing pumping structure and conveyance facilities and would not involve constructing any new structures or facilities that could result in physical changes to the environment (i.e., visual character). For these reasons, this is considered a less-than-significant impact.

**d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

The proposed project would not involve any actions that would create a new source of nighttime light or daytime glare. No impact affecting day or nighttime views would occur.

## 2. AGRICULTURAL AND FOREST RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>II. Agricultural and Forest Resources.</b>				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board				
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### ENVIRONMENTAL SETTING

The POU is zoned for agricultural land uses and is currently in agricultural production as vineyards along with supporting rural residences, farm-related structures, and open spaces. Surrounding land uses include similar land uses including agriculture (e.g., vineyards), rural residences, and open spaces.

## DISCUSSION

**a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

The proposed project would involve planting a vineyard on a 10-acre portion of the POU. The vineyard would be considered an agricultural use. Activities associated with the upgrade of the POD would involve upgrading existing pumping structure and conveyance facilities and would not involve constructing any new structures or facilities that could result in physical changes to the environment (i.e., conversion of important farmland). Because implementation of the proposed project would not convert important farmland to a non-agricultural use, no impact would occur.

**b) Conflict with existing zoning for agricultural use or a Williamson Act contract?**

The POU is zoned for Land Extensive Agricultural land uses by Sonoma County. Activities associated with the proposed project (i.e., water diversion, planting vineyard, upgrades to existing pumping structure and conveyance facilities) would comply with activities permitted in the Land Extensive Agricultural zone. In addition, activities associated with the proposed project (i.e., water diversion, planting vineyard, upgrades to existing pumping structure and conveyance facilities) would comply with activities permitted as part of a Williamson Act contract. Because implementation of the proposed project would not conflict with existing zoning or requirements of the Williamson Act, no impact would occur.

**c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**

The POU and surrounding lands are not zoned for forest land, timberland, or timberland zone Timberland production. There would be no conflict with existing, or cause rezoning of any, forest land, timberland, or timberland zoned Timberland Production. There would be no impact.

**d) Result in the loss of forest land or conversion of forest land to non-forest use?**

There is no substantial forest land in the POU that would be impacted. The only trees near the POU are within the undeveloped portions of the property where the existing POD is located and these would not be affected by the proposed project. Additionally, no other modifications are proposed that would affect forest land or conversion of forest land to non-forest use. There would be no impact.

**e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?**

The proposed project would involve planting a vineyard on a 10-acre portion of the POU and would be considered an agricultural use similar in type to surrounding agricultural land uses. Activities associated with the upgrade of the POD would only involve upgrading existing pumping structure and conveyance facilities and would not involve constructing any new structures or facilities that could result in physical changes to the environment (i.e., disturbance of important farmland). In addition, the upgraded structure and facilities would pump and convey water for use on the POU as an alternative source for the 156 af of water currently authorized.

Water pumped and conveyed from the POD would not be made available for use on other properties. Therefore, activities associated with the proposed project (i.e., water diversion, planting vineyard, upgrades to existing pumping structure and conveyance facilities) would not result in physical changes to the environment that could promote the conversion of adjacent or nearby farmland to a non-agricultural use. No impact would occur.

### 3. AIR QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>III. Air Quality.</b>				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### ENVIRONMENTAL SETTING

The POU is located in the Northern Sonoma Air Pollution Control District (NSAPCD) and the North Coast Air Basin. The NSAPCD was created by the California Air Resources Control Board (CARB) to monitor air quality and have permit authority over certain types of facilities or activities. The Sonoma County Department of Transportation administers the NSAPCD.

NSAPCD seeks to improve air quality conditions in northern Sonoma County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of NSAPCD includes preparing plans and programs for the attainment of ambient air quality standards, adopting and enforcing rules and regulations, and issuing permits for stationary sources. NSAPCD regulates and minimizes air quality emissions from stationary sources, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements other programs and regulations required by the Clean Air Act, Clean Air Act Amendments, and California Clean Air Act. At the time of this writing, NSAPCD has not established quantitative thresholds of significance for construction or operational emissions. Therefore, the State CEQA Guidelines Appendix G Checklist is used to evaluate the proposed project's air quality impacts.

## California and National Ambient Air Quality Standards

ARB and the U.S. Environmental Protection Agency (EPA) focus on the following air pollutants as indicators of ambient air quality: ozone, carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM), and lead. Because these are the most prevalent air pollutants known to be deleterious to human health and extensive health-effects criteria documents are available, they are commonly referred to as “criteria air pollutants.”

EPA has established primary and secondary national ambient air quality standards (NAAQS) for the following criteria air pollutants: ozone, CO, NO<sub>2</sub>, SO<sub>2</sub>, respirable particulate matter (PM<sub>10</sub>), fine particulate matter (PM<sub>2.5</sub>), and lead. The primary standards protect the public health of the most sensitive populations (e.g., children, elderly, and asthmatics) and the secondary standards protect public welfare (e.g., visibility, vegetation damage). In addition to the NAAQS, ARB has established California ambient air quality standards (CAAQS) for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In most cases, the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health-effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate an additional margin of safety to protect sensitive receptors, particularly children and infants (ARB 2009a). The NAAQS and CAAQS as discussed above are listed in **Table 4**.

## Existing Emissions

ARB develops emissions inventories for all counties within California. Table 5 summarizes Sonoma County’s emissions inventory for the year 2008. Mobile sources are the major contributor to the county’s total ROG, CO, NOX, and SOX emissions, accounting for approximately 45%, 82%, 93%, and 91% of total emissions, respectively. Area sources are the largest contributor of PM<sub>10</sub> and PM<sub>2.5</sub> emissions in the county, accounting for approximately 85% and 78%, respectively, of the total emissions.

## DISCUSSION

### a) Conflict with or obstruct implementation of the applicable air quality plan?

The proposed project would not involve any activities that generate substantial air emissions. Although the proposed project involves upgrades to pump structures and conveyance facilities for use on the POU as an alternative source for the 156 af of water currently authorized, these activities would be temporary and equipment used for construction are regulated by State and federal regulations. In addition, any new structures or facilities that generate air emissions would be required to comply with all regulations of the NSAPCD including Rule 230 requiring “that the new or modified stationary source of air contaminants will not prevent the attainment, interfere with the maintenance, or cause a violation, of any state or national ambient air quality standard nor interfere with the control strategy contained in the State of California Air Quality Implementation Plan.” Lastly, the proposed vineyard itself would not generate substantial harmful air emissions. Operations associated with a vineyard could generate small amounts of harmful air emissions (e.g., open burning) regulated by an applicable air quality plan; however, these activities are regulated by the NSAPCD. For these reasons, implementation of the proposed project would not conflict with or obstruct implementation of an applicable air quality plan. This impact would be less than significant.

<b>Table 4</b> <b>Ambient Air Quality Standards and Designations</b>						
Pollutant	Averaging Time	California		National Standards <sup>a</sup>		
		Standards <sup>b, c</sup>	Attainment Status <sup>d</sup>	Primary <sup>c, e</sup>	Secondary <sup>c, f</sup>	Attainment Status <sup>g</sup>
Ozone	1-hour	0.09 ppm (180 µg/m <sup>3</sup> )	N (Extreme)	— <sup>h</sup>	Same as Primary Standard	— <sup>h</sup>
	8-hour	0.070 ppm (137 µg/m <sup>3</sup> )	N	0.075 ppm (147 µg/m <sup>3</sup> )		N (Severe)
Respirable Particulate Matter (PM <sub>10</sub> )	Annual Arithmetic Mean	20 µg/m <sup>3</sup>	N	— <sup>h</sup>	Same as Primary Standard	N (Serious)
	24-hour	50 µg/m <sup>3</sup>		150 µg/m <sup>3</sup>		
Fine Particulate Matter (PM <sub>2.5</sub> )	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	N	15.0 µg/m <sup>3</sup>	Same as Primary Standard	N <sup>i</sup>
	24-hour	—		35 µg/m <sup>3</sup>		
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m <sup>3</sup> )	A	35 ppm (40 mg/m <sup>3</sup> )	—	A
	8-hour	9.0 ppm (10 mg/m <sup>3</sup> )		9 ppm (10 mg/m <sup>3</sup> )		
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )	N <sup>j</sup>	0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	U/A
	1-hour	0.18 ppm (339 µg/m <sup>3</sup> )	N <sup>j</sup>	0.100 ppm (188 µg/m <sup>3</sup> )		—
Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	—	—	—	—	—
	24-hour	0.04 ppm (105 µg/m <sup>3</sup> )	A	—	—	U
	3-hour	—	—	—	0.5 ppm (1300 µg/m <sup>3</sup> )	—
	1-hour	0.25 ppm (655 µg/m <sup>3</sup> )	A	0.075 ppm (196 µg/m <sup>3</sup> )	—	—
Lead <sup>k</sup>	30-day Average	1.5 µg/m <sup>3</sup>	A	—	—	—
	Rolling 3- Month Average <sup>l</sup>	—	—	0.15 µg/m <sup>3</sup>	Same as Primary Standard	N
Sulfates	24-hour	25 µg/m <sup>3</sup>	A	No National Standards		
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m <sup>3</sup> )	U			
Vinyl Chloride <sup>k</sup>	24-hour	0.01 ppm (26 µg/m <sup>3</sup> )	—			
Visibility- Reducing Particle	8-hour	Extinction coefficient of 0.23 per kilometer—	U			

<b>Table 4</b> <b>Ambient Air Quality Standards and Designations</b>						
Pollutant	Averaging Time	California		National Standards <sup>a</sup>		
		Standards <sup>b, c</sup>	Attainment Status <sup>d</sup>	Primary <sup>c, e</sup>	Secondary <sup>c, f</sup>	Attainment Status <sup>g</sup>
Matter		visibility of 10 miles or more (0.07–30 miles or more for Lake Tahoe) because of particles when the relative humidity is less than 70%.				
<sup>a</sup> National standards (other than ozone, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM <sub>10</sub> 24-hour standard is attained when 99% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The PM <sub>2.5</sub> 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the U.S. Environmental Protection Agency (EPA) for further clarification and current federal policies. <sup>b</sup> California standards for ozone, CO (except Lake Tahoe), SO <sub>2</sub> (1- and 24-hour), NO <sub>2</sub> , PM, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California Ambient Air Quality Standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations. <sup>c</sup> Concentration expressed first in units in which the standard was promulgated (i.e., parts per million [ppm] or micrograms per cubic meter [µg/m <sup>3</sup> ]). Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas. <sup>d</sup> Unclassified (U): a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment. Attainment (A): a pollutant is designated attainment if the state standard for that pollutant was not violated at any site in the area during a 3-year period. Nonattainment (N): a pollutant is designated nonattainment if there was a least one violation of a state standard for that pollutant in the area. Nonattainment/Transitional (NT): is a subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the standard for that pollutant. <sup>e</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health. <sup>f</sup> National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. <sup>g</sup> Nonattainment (N): any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant. Attainment (A): any area that meets the national primary or secondary ambient air quality standard for the pollutant. Unclassifiable (U): any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant. <sup>h</sup> The 1-hour ozone National Ambient Air Quality Standard (NAAQS) was revoked on June 15, 2005 and the annual PM <sub>10</sub> NAAQS was revoked in 2006. <sup>i</sup> EPA lowered the 24-hour PM <sub>2.5</sub> standard from 65 µg/m <sup>3</sup> to 35 µg/m <sup>3</sup> in 2006. EPA issued attainment status designations for the 35 µg/m <sup>3</sup> standard on December 22, 2008. EPA has designated the South Coast Air Basin as nonattainment for the 35 µg/m <sup>3</sup> PM <sub>2.5</sub> standard. <sup>j</sup> In 2007, the Air Resources Board lowered the 1-hour NO <sub>2</sub> standard from 0.25 ppm to 0.18 ppm and established a new annual standard of 0.030 ppm. Based on data for 2006-2008, the South Coast Air Basin violates the state annual NO <sub>2</sub> standard. <sup>k</sup> The California Air Resources Board has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for this pollutant. <sup>l</sup> The National standard for lead was revised on October 15, 2008 to a rolling 3-month average of 0.15 µg/m <sup>3</sup> . The 1978 lead standard (1.5 µg/m <sup>3</sup> as a quarterly average) remains in effect one year after an area is designated for the 2008 standard, except if the area was previously in nonattainment under the 1978 standard. On December 31, 2010, Los Angeles County was designated as nonattainment for lead under the NAAQS. Therefore, the 3-month rolling average is now the applicable National lead standard. In addition, the 2012 Lead SIP must achieve attainment of the new lead standard as expeditiously as practicable, but no later than December 31, 2015. Source: ARB 2009a, 2009b						

**Table 5**  
**Summary of 2008 Estimated Emissions Inventory for Criteria Air Pollutants and Precursors**  
**(Sonoma County)**

Source Type/Category	Estimated Annual Average Emissions (Tons per Day)					
	ROG	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Stationary Sources</b>						
Fuel Combustion	0.15	4.83	0.98	0.13	0.36	0.26
Waste Disposal	6.83	0.01	0.00	0.00	0.00	0.00
Cleaning and Surface Coating	2.43	0.00	0.00	—	—	—
Petroleum Production and Marketing	0.89	—	—	—	—	—
Industrial Processes	1.01	0.07	0.01	0.03	1.34	0.56
Subtotal (Stationary Sources)	11.31	4.91	1.00	0.17	1.70	0.82
<b>Area-wide Sources</b>						
Solvent Evaporation	5.51	—	—	—	—	—
Miscellaneous Processes	4.40	26.89	1.33	0.08	19.51	8.22
Subtotal (Area-wide Sources)	9.91	26.89	1.33	0.08	19.51	8.22
<b>Mobile Sources</b>						
On-Road Motor Vehicles	11.25	105.61	16.28	0.07	0.73	0.51
Other Mobile Sources	6.41	43.05	15.76	2.35	1.14	1.04
Subtotal (Mobile Sources)	17.66	148.66	32.04	2.42	1.87	1.54
<b>Total for Sonoma County</b>	<b>38.88</b>	<b>180.46</b>	<b>34.36</b>	<b>2.67</b>	<b>23.08</b>	<b>10.58</b>
<i>Notes:</i> ROG = reactive organic gases; CO = carbon monoxide; NO <sub>x</sub> = oxides of nitrogen; SO <sub>x</sub> = oxides of sulfur; PM <sub>10</sub> = respirable particulate matter; PM <sub>2.5</sub> = fine particulate matter Totals in table may not add exactly due to rounding. Source: ARB 2012.						

**b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

Please refer to discussion under question 3(a) above. Implementation of the proposed project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. This impact would be less than significant.

**c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?**

Please refer to discussion under question 3(a) above. Implementation of the proposed project would not generate substantial amount of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. This impact would not cause a cumulatively considerable net increase of any criteria pollutant to a significant cumulative impact.

**d) Expose sensitive receptors to substantial pollutant concentrations?**

Please refer to discussion under question 3(a) above. The proposed project would not generate substantial air pollutants that would be considered obtrusive to sensitive receptors (e.g., residences). This impact would be less than significant.

**e) Create objectionable odors affecting a substantial number of people?**

The proposed project would not generate any air pollutants that would be considered obtrusive (e.g., odors) to a substantial number of people. No impact would occur.

## 4. BIOLOGICAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>IV. Biological Resources. Would the project:</b>				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### ENVIRONMENTAL SETTING

Searches of DFW's California Natural Diversity Database (CNDDB) and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants were conducted to identify sensitive biological resources that have been documented in the nine U.S. Geological Survey 7.5-minute quadrangles containing and surrounding the project site. The nine quadrangles included in the database searches are Healdsburg, Geyserville, Guerneville, Santa Rosa, Sebastopol, Camp Meeker, Mark West Springs, St. Helena, and Jintown. In addition to the database searches, information was obtained through aerial photograph interpretation and photos and records provided by the Applicant.

Following the database searches, AECOM botanists Richard Dwerlkotte and Tammie Beyerl, and wildlife biologist Robert Solecki, conducted a site visit on July 16, 2004 to characterize common biological resources present in the POU and in the vicinity, and to evaluate the site's potential to support sensitive biological

resources. During the site visit, AECOM biologists observed and classified plant communities and potential waters of the United States on and adjacent to the POU and described plant and wildlife species observed (below). A follow-up biological reconnaissance survey was conducted by AECOM botanist Tammie Beyerl and fisheries biologist Christine Tovey on July 21, 2009. Protocol-level surveys were not conducted.

The POU consists of cultivated vineyards. The 10 acres of the proposed POU along Young Road that were tilled and unplanted at the time the application was filed were planted in spring 2000 and under vineyard cultivation at the time of the surveys. Annual grassland, blue oak woodland, mixed evergreen forest, northern mixed chaparral, and vineyards characterize land immediately adjacent to the POU.

### Special-Status Plant Species

Sonoma County is rich in habitat diversity and a great number of rare and endemic plant species have been documented within the nine quadrangles containing and surrounding the project site. All of the special-status plant species documented within the quadrangles were evaluated for their potential to occur in or adjacent to the POU. Special-status species that have been documented in the area and that have potential to occur in the POU or in immediately adjacent habitats were evaluated further in Table 6, which provides their listing status, habitat description, and the rationale for whether or not they would be expected to occur in the POU.

Five plant species on CNPS List 1B (considered rare, threatened, or endangered in California and elsewhere) were identified as having potential to occur in annual grassland habitat in the area. These species are bent-flowered lunaria (*Amsinckia lunaris*), bigscale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*), Sonoma brodiaea (*Brodiaea californica* var. *leptandra*), fragrant fritillary (*Fritillaria liliacea*), and marsh microseris (*Microseris paludosa*). However, the POU consists of cultivated vineyards that have no potential to support special-status plant species. Annual grassland habitats around the vineyards and reservoir do not provide suitable habitat for special-status plant species due to the high degree of disturbance these areas receive. Likewise, the land adjacent to the POD on Maacama Creek is characterized by ruderal grassland that is not suitable for special-status plants due to a high degree of disturbance (i.e., the area is used as a pull out and parking area and is regularly mowed). The 10 acres of unplanted vineyard along Young Road that are proposed for planting are disturbed and would not be suitable for special-status plant species. Site visits during the relevant blooming seasons were thus not conducted since the POD, vineyard, and reservoir areas (and undeveloped vineyard area) were not considered suitable and because access to lands adjacent to the POD, vineyards, and reservoir was not available at the time of survey during the relevant blooming seasons.

Clara Hunt's milkvetch (*Astragalus claranus*), a species federally listed as endangered and State listed as threatened, has been documented in chaparral, woodland, and annual grassland habitats in the region but is unlikely to occur in the POU because suitable thin, rocky serpentine or volcanic soils are lacking from the project site. Marsh checkerbloom (*Sidalcea oregana* ssp. *hydrophila*), also a CNPS List 1B species, occurs in wetland and riparian habitat but is restricted to higher elevations (3,600 to 7,500 feet).

Several special-status plant species associated with freshwater marsh habitats have been documented in the nine quadrangles containing and surrounding the project site. These species are Sonoma alopecurus (*Alopecurus aequalis* var. *sonomensis*), Thurber's reedgrass (*Calamagrostis crassiglumis*), swamp harebell (*Campanula californica*), Sonoma white sedge (*Carex albida*), bristly sedge (*Carex comosa*), Pitkin Marsh Indian paintbrush (*Castilleja uliginosa*), Pitkin Marsh lily (*Lilium pardalinum* ssp. *pitkinense*), North Coast semaphore grass

**Table 6**  
**Special-Status Plant Species with Potential to Occur in the POU and Immediate Vicinity**

Species	Status <sup>1</sup>			Habitat and Blooming Period	Potential for Occurrence
	USFWS	DFW	CNPS		
Sonoma alopecurus Alopecurus aequalis var. sonomensis	–	–	1B	Freshwater marshes and swamps, riparian scrub; 15–700 feet elevation; May-July.	Not expected to occur; the marsh habitat in the on-site reservoir is unlikely to support this species due to unnatural hydrology.
Napa false indigo Amorpha californica var. napensis	–	–	1B	Broadleaved upland forest, chaparral, cismontane woodland; 390–6,500 feet elevation; April-July.	Not expected to occur; could be present in adjacent chaparral, woodland, and forest communities but no suitable habitat is present on the project site.
Bent-flowered lunaria Amsinckia lunaris	–	–	1B	Valley and foothill grassland, cismontane woodland, coastal bluff scrub; 10–1,600 feet elevation; March-June.	Could occur; annual grassland adjacent to the POU provides suitable habitat.
Clara Hunt's milk-vetch Astragalus claranus	E	T	1B	Openings in chaparral, cismontane woodland, valley and foothill grassland; serpentinite, rocky, or clay substrates; 250–900 feet elevation; March-May.	Not expected to occur; this species is usually (65 to 74% of the time) found on serpentinite soils, which are not present on the POU and other suitable soil types are also lacking.
Bigscale balsamroot Balsamorhiza macrolepis var. macrolepis	–	–	1B	Chaparral, cismontane woodland, valley and foothill grassland; sometimes in serpentinite soils; 300–4,500 feet elevation; March-June.	Could occur in the annual grassland adjacent to the POU. However, the probability of occurrence is low because, although not restricted to serpentinite soils, this species is usually (65 to 74% of the time) found on serpentinite soils, which are not present on the project site.
Sonoma brodiaea Brodiaea californica var. leptandra	–	–	1B	Broadleaved upland forest, lower montane coniferous forest, chaparral, valley and foothill grassland; 300–3,000 feet elevation; May-July.	Could occur in the annual grassland adjacent to the POU.
Thurber's reed grass Calamagrostis crassiglumis	–	–	2	Mesic habitats in coastal scrub, freshwater marshes and swamps; 30–150 feet elevation; May-July.	Not expected to occur; the marsh habitat in the on-site reservoir is unlikely to support this species due to unnatural hydrology.
Swamp harebell Campanula californica	–	–	1B	Bogs and fens, closed-cone coniferous forest, coastal prairie, meadows and seeps, freshwater marshes and swamps, North Coast coniferous forest; mesic sites; 3–1,330 feet elevation; June-October.	Not expected to occur; the marsh habitat in the on-site reservoir is unlikely to support this species due to unnatural hydrology.
White sedge Carex albida	E	E	1B	Bogs and fens, freshwater marshes and swamps; 50–300 feet elevation; May-July.	Not expected to occur; the marsh habitat in the on-site reservoir is unlikely to support this species due to unnatural hydrology.

**Table 6**  
**Special-Status Plant Species with Potential to Occur in the POU and Immediate Vicinity**

Species	Status <sup>1</sup>			Habitat and Blooming Period	Potential for Occurrence
	USFWS	DFW	CNPS		
Bristly sedge <i>Carex comosa</i>	–	–	2	Coastal prairie, lake margin marshes and swamps, valley and foothill grassland; 0–1,400 feet elevation; May-September.	Not expected to occur; the marsh habitat in the on-site reservoir is unlikely to support this species due to unnatural hydrology.
Pitkin Marsh Indian paintbrush <i>Castilleja uliginosa</i>	–	E	1A	Freshwater marshes and swamps; 200 feet elevation; June-July.	Not expected to occur; the marsh habitat in the on-site reservoir is unlikely to support this species due to unnatural hydrology. Species is presumed extinct; last known plant died in 1987.
Fragrant fritillary <i>Fritillaria liliacea</i>	–	–	1B	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland, wetland-riparian; often in serpentine soils; 10–1,350 feet elevation; February-April.	Could occur in annual grassland adjacent to the POU. Species is found on serpentinite soils 55 to 64% of the time.
Thin-lobed horkelia <i>Horkelia tenuiloba</i>	–	–	1B	Mesic, sandy openings in broadleaved upland forest and chaparral; 150–1,650 feet elevation; May-July.	Not expected to occur; could be present in adjacent chaparral and forest communities but no suitable habitat is present on the project site.
Jepson's leptosiphon <i>Leptosiphon jepsonii</i>	–	–	1B	Chaparral or cismontane woodland, usually in volcanic soils; 325–1,600 feet elevation; April-May.	Not expected to occur; could be present in adjacent chaparral and woodland communities but no suitable habitat is present on the project site.
Pitkin Marsh lily <i>Lilium pardalinum</i> ssp. <i>pitkinense</i>	E	E	1B	Freshwater marsh with sandy soils; 100–200 feet elevation; June-July.	Not expected to occur; the marsh habitat in the on-site reservoir is unlikely to support this species due to unnatural hydrology.
Sebastopol meadowfoam <i>Limnathes vinculans</i>	E	E	1B	Vernal pools and swales, meadows and seeps; 50–1,000 feet elevation; April-May.	Not expected to occur; this species is restricted to the Cotati Valley in Sonoma County (56 Federal Register [FR] 61173, Dec. 2, 1991) and suitable habitat is not present.
Marsh microseris <i>Microseris paludosa</i>	–	–	1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland; 15–1,000 feet elevation; April-June.	Could occur in annual grassland adjacent to the POU.
Robust monardella <i>Monardella villosa</i> ssp. <i>globosa</i>	–	–	1B	Openings in broadleaved upland forest, chaparral, and cismontane woodland; 300–3,000 feet elevation; June-July.	Not expected to occur; could be present in adjacent chaparral, woodland, and forest communities but no suitable habitat is present on the project site.

**Table 6**  
**Special-Status Plant Species with Potential to Occur in the POU and Immediate Vicinity**

Species	Status <sup>1</sup>			Habitat and Blooming Period	Potential for Occurrence
	USFWS	DFW	CNPS		
North Coast semaphore grass <i>Pleuropogon hooverianus</i>	–	T	1B	Broadleaved upland forest, meadows and seeps, freshwater marshes and swamps, North Coast coniferous forest, vernal pools; occurs on mesic sites; 30–2,080 feet elevation; May–August.	Not expected to occur; the marsh habitat in the on-site reservoir is unlikely to support this species due to unnatural hydrology.
White beaked-rush <i>Rhynchospora alba</i>	–	–	2	Bogs and fens, meadows and seeps, freshwater marshes and swamps; 200–6,700 feet elevation; July–August.	Not expected to occur; the marsh habitat in the on-site reservoir is unlikely to support this species due to unnatural hydrology.
California beaked-rush <i>Rhynchospora californica</i>	–	–	1B	Bogs and fens, lower montane coniferous forest, meadows and seeps, freshwater marshes and swamps; 150–3,300 feet elevation; May–July.	Not expected to occur; the marsh habitat in the on-site reservoir is unlikely to support this species due to unnatural hydrology.
Brownish beaked-rush <i>Rhynchospora capitellata</i>	–	–	2	Lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest; 1,500–6,500 feet elevation; July–August.	Not expected to occur; the marsh habitat in the on-site reservoir is unlikely to support this species due to unnatural hydrology. POU is lower than species' known elevation range.
Round-headed beaked-rush <i>Rhynchospora globularis</i> var. <i>globularis</i>	–	–	2	Freshwater marshes and swamps; 150–200 feet elevation; July–August.	Not expected to occur; the marsh habitat in the on-site reservoir is unlikely to support this species due to unnatural hydrology.
Kenwood Marsh checkerbloom <i>Sidalcea oregano</i> ssp. <i>valida</i>	E	E	1B	Freshwater marshes and swamps; 375–500 feet elevation; June–August.	Not expected to occur; this species is known from only two extant occurrences in high quality, natural marsh habitats. The marsh habitat on the POU is not suitable for this species.
Saline clover <i>Trifolium depauperatum</i> var. <i>hydrophilum</i>	–	–	1B	Marshes and swamps; mesic, alkaline grasslands; vernal pools; 0–1,000 feet elevation; April–June.	Not expected to occur; marsh habitat on the POU is not suitable for this species and there are no vernal pools or mesic saline grasslands present.

Notes: CESA = California Endangered Species Act; CNPS = California Native Plant Society; DFW = California Department of Fish and Wildlife

<sup>1</sup> Legal Status Definitions

U.S. Fish and Wildlife Service:

E = Endangered (legally protected)

T = Threatened (legally protected)

California Department of Fish and Wildlife:

E = Endangered (legally protected)

T = Threatened (legally protected)

California Native Plant Society Categories:

1A = Plant species presumed extinct in California

1B = Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

2 = Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

Sources: CNDDDB 2009; CNPS 2009; data compiled by AECOM in 2009.

(*Pleuropogon hooverianus*), white beaked-rush (*Rhynchospora alba*), California beaked-rush (*Rhynchospora californica*), brownish beaked-rush (*Rhynchospora capitellata*), and round-headed beaked-rush (*Rhynchospora globularis* var. *globularis*).

The 156 af reservoir adjacent to the POU supports approximately 2 acres of freshwater marsh vegetation along its margins, particularly at the northeast end where the unnamed tributary enters the reservoir. The reservoir marsh community is characterized by common and widespread species including cattail (*Typha* sp.), common spike rush (*Eleocharis macrostachya*), tule (*Scirpus acutus*), and water plantain (*Alisma plantago-aquatica*). Although the freshwater marsh habitat in the reservoir appears vigorous and healthy, it is within an artificially constructed pond that is subject to sudden fluctuations in water level when water is released for irrigating the vineyards. Thus, the freshwater marsh habitat adjacent to the POU does not represent the natural hydrologic conditions to which special-status plant species are adapted and is poor quality habitat in comparison to the more natural marshes where these species are known to occur such as Pitkin and Perry Marshes. In addition, reservoir operations would not change with approval of this application and there would be no changes to the hydrologic regime that could adversely affect marsh vegetation.

Numerous other special-status plant species have been documented in the nine quadrangles containing and surrounding the POU, but these species are restricted to habitats that do not occur on the POU such as vernal pool, saltwater marsh, chaparral, coastal prairie, coastal scrub, and woodland and forest communities and are therefore not addressed further in this document. Many of the species documented in the nine quadrangle area are restricted to serpentine soils, which are not present on the project site. Although chaparral, oak woodland, and mixed evergreen forest habitats are present adjacent to the project site, these areas would not be affected by the activities proposed under the permit application and there would be no potential impact on special-status plant species if they occur in these adjacent habitats.

### **Special-Status Wildlife Species**

In the nine quadrangles containing and surrounding the POU (Table 7), the CNDDDB reports 12 special-status wildlife species with the potential to occur. One of these species, California red-legged frog, is not expected to occur because the POU is north of the species' typical range, which is from Marin County south. However, a breeding population of California red-legged frog was discovered in 2008 approximately 15 miles west of the POU in the Austin Creek State Recreation Area: this is the nearest known occurrence. Additionally, three of the 12 special-status species are not expected to occur in the POU because there is no suitable habitat present. These species are California tiger salamander, which breed in vernal pools or similar seasonal wetland habitats; and pallid bat and Townsend's western big-eared bat, which require rocky areas, bridges, mines, caves, or buildings for roosting.

Two species, burrowing owl and American badger, make their homes in burrows in annual grassland habitats. Burrowing owls typically occupy ground squirrel burrows and are unlikely to occupy the POU because it is outside their currently known breeding range (Shuford and Gardali 2008), and vineyard management includes ground squirrel and other rodent eradication and control measures. These measures include destroying ground squirrel burrows after killing the occupants. No burrows or signs of burrowing owls were observed on the POU during either of the reconnaissance surveys. No impacts on burrowing owls are expected.

Table 7 Special-Status Wildlife with Potential to Occur in the POU and Immediate Vicinity				
Species	Listing Status <sup>1</sup>		Habitat	Potential for Occurrence <sup>2</sup>
	Federal	State		
INVERTEBRATES				
California freshwater shrimp <i>Syncaris pacifica</i>	T	E	Shallow pools away from stream flow in low-elevation, low-gradient streams.	Could occur; potentially suitable habitat is present in Maacama Creek.
AMPHIBIANS AND REPTILES				
California tiger salamander <i>Ambystoma californiense</i>	T	C	Vernal pools and seasonal wetlands with a minimum 10-week inundation period and surrounding uplands, primarily grasslands, with burrows and other belowground refugia (e.g., rock or soil crevices).	Not expected to occur; no suitable habitat is present.
California red-legged frog <i>Rana aurora draytonii</i>	T	SC	Foothill streams with dense shrubby or emergent riparian vegetation, minimum 11–20 weeks of water for larval development, and upland refugia for aestivation.	Not expected to occur; POU is north of species range.
Northern red-legged frog <i>Rana aurora aurora</i>	–	SC	Lowlands and foothills in or near permanent sources of deep cool water with dense, shrubby, or emergent riparian vegetation.	Could occur; potentially suitable habitat is present in Franz Creek and Maacama Creek.
Foothill yellow-legged frog <i>Rana boylei</i>	–	SC	Partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Could occur; potentially suitable habitat is present adjacent to the POU in Maacama Creek.
Northwestern pond turtle <i>Actinemys marmorata marmorata</i>	–	SC	Forage in ponds, marshes, slow-moving streams, sloughs with permanent, or nearly permanent, water; nest in nearby uplands with low, sparse vegetation.	Could occur; storage reservoir and Maacama Creek adjacent to the POU provide suitable habitat.
BIRDS				
White-tailed kite <i>Elanus leucurus</i> (nesting)	–	FP	Forages in grasslands and agricultural fields; nests in riparian zones, oak woodlands, and isolated trees.	Could occur; annual grassland adjacent to the POU provides suitable foraging habitat and potential nest trees are present.
Burrowing owl <i>Athene cunicularia</i> (burrow sites)	–	SC	Nests and forages in grasslands, agricultural lands, open shrublands, and open woodlands with existing ground squirrel burrows or friable soils.	Not expected to occur; vineyard management includes ground squirrel eradication and control measures. POU is outside currently known breeding range.
MAMMALS				
Red tree vole <i>Arborimus pomo</i>	–	SC	Douglas fir, redwood, and montane hardwood-conifer forests.	Could occur in mixed evergreen forest adjacent to the POU.

<b>Table 7</b> <b>Special-Status Wildlife with Potential to Occur in the POU and Immediate Vicinity</b>				
Species	Listing Status <sup>1</sup>		Habitat	Potential for Occurrence <sup>2</sup>
	Federal	State		
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	–	SC	Typically roosts in caves; however, colonies of <100 individuals occasionally nest in buildings or bridges. Forages in all habitats except alpine and subalpine, though most commonly in mesic forests and woodlands.	Not expected to roost onsite; no potential roosting structures are present.
Pallid bat <i>Anthrozous pallidus</i>	–	SC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats. Roost primarily in rock crevices, bridges, or buildings. Sometimes roost in oak hollows.	Not expected to roost onsite; no potential roosting structures are present.
American Badger <i>Taxidea taxus</i>	-	SC	Drier open shrub, forest, and herbaceous habitats with friable soils.	Could forage in the POU but not expected to den due to human disturbance.
<sup>1</sup> Legal Status Definitions  Federal: D = Delisted (no ESA protection) E = Endangered (legally protected) T = Threatened (legally protected)  State: C = Candidate for listing (legally protected) FP = Fully protected (legally protected) SC = Species of special concern (no formal protection other than CEQA consideration) T = Threatened (legally protected)				
Source: CNDDB 2009; CNPS 2009; data compiled by AECOM in 2009.				

Because animal burrows are regularly destroyed as part of vineyard management, it is unlikely that American badgers den on the project site, although they may forage on or move through the POU occasionally. Potential impacts on American badger are considered less than significant because implementing the proposed project would not substantially reduce their populations.

Based on the habitats present at the POU, the following six special-status wildlife species have the potential to occur: California freshwater shrimp, northern red-legged frog, foothill yellow-legged frog, northwestern pond turtle, white-tailed kite, and Sonoma tree vole. California freshwater shrimp is State and federally listed as endangered. Northern red-legged frog, foothill yellow-legged frog, northwestern pond turtle, white-tailed kite, and Sonoma tree vole are California species of special concern. White-tailed kite is also a fully protected species under the California Fish and Game Code.

Although not all raptors are considered special-status species, they are a sensitive biological resource protected under Section 3503.5 of the California Fish and Game Code, which prohibits take or destruction of raptors, including their nests and eggs. Common raptor species, such as barn owl, red-tailed hawk, and American kestrel, may forage in the POU and could nest in trees adjacent to the POU including the riparian habitat along Maacama and Franz Creeks.

Maacama Creek supports suitable habitat for California freshwater shrimp, northern red-legged frog, foothill yellow-legged frog, and northwestern pond turtle because the creek has large, deep pools during summer. Northern red-legged frog and northwestern pond turtle could also inhabit the reservoir adjacent to the POU. White-tailed kite could nest in medium to large trees in the riparian habitat on Maacama Creek or in adjacent woodland and forest habitats. Sonoma tree vole could occur in the mixed evergreen forest adjacent to the POU because Douglas fir trees, the primary food source for Sonoma tree voles, are present.

The unnamed tributary to Franz Creek is small (1–3 feet wide), but portions of the tributary could support northern red-legged frog during wet conditions. These areas include the portion of the small tributary north of the reservoir, the small natural stream channel south of the reservoir, and the portion of the channel that reappears from Thomas Road to Franz Creek. These areas do not provide suitable habitat for other special-status species because there is either not enough water flow; the tributary is too small; the tributary is too disturbed; or habitat structure is unsuitable.

There are two small wastewater treatment ponds (approximately 100 feet by 100 feet) located in the southeastern portion of the vineyard. The banks of these ponds consist of earthen berms with ruderal vegetation. There are scattered cattails along the edges of the ponds. The disturbed nature and location of these ponds (i.e., surrounded by vineyards) makes them unattractive to most aquatic special-status species that could potentially occur. Northern red-legged frogs are not expected to occur because the POU is outside of the species range, the ponds are regularly disturbed, and bullfrogs are present.

### **Special-Status Fish Species**

Maacama Creek is a major tributary of the Russian River (SRCD 2004). Five special-status fish species have the potential to occur on or adjacent to the project site. Of these, three species are listed under the State and/or federal ESA as threatened or endangered species: Central California Coast coho salmon Evolutionarily Significant Unit (ESU), California Coastal Chinook salmon ESU, and Central California Coast steelhead distinct population segment (DPS, formerly ESU). The two remaining species are considered federal Species of Concern and/or California Species of Special Concern; they include Navarro roach and Russian River tule perch.

One of the five special-status species (Chinook salmon) is not expected to occur in the study area because there is no suitable habitat present.

The Central California Coast steelhead has been federally listed by NMFS as threatened under the federal ESA (62 FR 43938, August 18, 1997). Designated critical habitat for steelhead includes the drainages of San Francisco and San Pablo Bays (65 FR 7764, February 16, 2000). This species is not listed as threatened or endangered under CESA. The Central California Coast coho salmon ESU was listed as a threatened species on October 31, 1996 (61 Federal Register [FR] 56138) and downgraded to endangered on June 28, 2005 (70 FR 37160). The ESU includes all naturally spawned populations of coho salmon from Punta Gorda in northern California south to and including the San Lorenzo River in central California, as well as populations in tributaries to San Francisco Bay, excluding the Sacramento-San Joaquin River system. Critical habitat for coho was designated on May 5, 1999 (64 FR 24049). Critical habitat is designated to include the portions of the Russian River within the study area. Anadromous fish spend their adult lives in the ocean and return to freshwater to spawn. Adult steelhead and coho migrate through the Russian River to upstream spawning habitat in fall and spring to spawn. Juveniles spend variable amounts of time rearing in freshwater, and for steelhead it can be for up to 3 years. Consequently,

juvenile salmonids may be in the Russian River and its tributaries year-round. The greatest limiting factor to salmonid production in the Russian River basin and similar coastal watersheds is the summer low-flow period. During low flows, available habitat can be substantially reduced, predation rates high, competition for food increased, thermal stress increased resulting from higher water temperatures, habitat connectivity lost, and the number of steelhead ultimately becoming adults determined. While limiting factors vary, low summer and fall streamflow is a substantial limiting factor for steelhead in the Russian River basin within Sonoma County.

A DFW survey in 1973 concluded that Maacama Creek had roughly 5 miles of spawning habitat for anadromous fish (SRCD 2004). Riparian coverage on the edge of the creek is moderate and provides some shade in the near-shore areas. During AECOM's July 2004 reconnaissance-level survey, Maacama Creek did not support any observable flow but did support a series of large pools (approximately 4 feet deep) connected by shallow pools. This portion of Maacama Creek supports potential spawning habitat (during late fall through early spring) for coho salmon and steelhead (Cox, pers. comm., 2004). In addition, steelhead have been observed spawning and rearing within ¼-mile upstream of the study area (Cox, pers. comm., 2004). The portion of Maacama Creek downstream of the study area was mostly dry during the AECOM survey. There is no record of Chinook salmon occurring in Maacama Creek and they are not expected to be in the creek because this species tends to spawn in the larger tributaries of the region such as the Russian River and Dry Creek (Cox, pers. comm., 2004). Based on observations during the AECOM July 2004 survey, Maacama Creek also supports suitable habitat for Navarro roach and Russian River tule perch because the creek has large, deep pools during summer. Russian River tule perch have been reported approximately 2 miles upstream at Camp Maacama (CNDDDB 2004).

Franz Creek supports a population of steelhead (Cox, pers. comm., 2004). The portion of Franz Creek in the study area supports migration and rearing habitat for steelhead and potential rearing habitat for juvenile coho salmon; however, this portion of Franz Creek is not expected to support spawning conditions for steelhead because suitable gravel is absent. Adult coho salmon are also not expected to spawn in Franz Creek (Cox, pers. comm., 2004). Franz Creek did not support any active flow, and large portions of the creek were dry during the AECOM July 2004 survey. However, there were a few shaded, shallow pools scattered along the creek that were up to 100 feet long and approximately 2 feet deep. During the AECOM survey, unidentified juvenile salmonids were observed in some of these pools. These salmonids were likely either juvenile steelhead or rainbow trout (Cox, pers. comm., 2004).

Franz Creek may provide suitable habitat for Navarro roach through summer, while Russian River tule perch are only expected to be present during winter and spring when a deeper and more permanent water source is available in the creek. Russian River tule perch require clear flowing water with deep pools (greater than 3 feet) and abundant cover (CNDDDB 2004).

The unnamed tributary to Franz Creek is small (1–3 feet wide) and does not provide suitable habitat for special-status fish species because there is either not enough water flow (dry in summer); the tributary is too small; the tributary is too disturbed; or habitat structure is unsuitable. The natural stream channel south of the reservoir was the only portion of the unnamed tributary that supported water during the AECOM 2004 survey.

## ANALYSIS OF PROJECT UNDER THE DRAFT GUIDELINES

In 2002, NOAA Fisheries (also known as NMFS) and DFW developed Draft Guidelines for Maintaining Instream Flows to Protect Fisheries Resources Downstream of Water Diversions in Mid-California Coastal Streams (DFW-NMFS Fisheries Draft Guidelines), dated June 17, 2002. The DFW-NMFS Fisheries Draft Guidelines were recommended for use by permitting agencies (including the State Water Board), planning agencies, and water resources development interests when evaluating proposals to divert and use water from northern California coastal streams. The DFW-NMFS Fisheries Draft Guidelines apply to projects located in the geographic area of Sonoma, Napa, Mendocino, and Marin Counties, and portions of Humboldt County. The DFW-NMFS Fisheries Draft Guidelines recommend that terms and conditions be included in new water right permits for small diversions to protect fishery resources in the absence of site-specific biologic and hydrologic assessments. The DFW-NMFS Fisheries Draft Guidelines, in large part, recommend:

1. Assessing the cumulative impacts of multiple diversion projects on downstream fisheries habitat by calculating the Cumulative Flow Impairment Index (CFII) to estimate the cumulative effects of existing and pending projects in a watershed of interest,
2. Limiting new water right permits to diversions during the winter period (December 15 through March 31) when stream flows are generally high,
3. Providing a minimum bypass flow downstream of diversions not less than the February Median Flow as calculated at the points of diversion,
4. That new storage ponds be constructed offstream and that permitting of new or existing onstream storage ponds be avoided, and
5. Where appropriate, water diversions be screened in accordance with NMFS and DFW screening criteria.

As discussed below, the project, with specific modifications and mitigation measures incorporated, appears to be consistent with the DFW-NMFS Fisheries Draft Guidelines' recommendations, based upon the following:

1. The WAA prepared for the project (Napa Valley Vineyard Engineering 2008), calculated CFII values between 3.9 and 4.5% for the three points of interest (POI).
2. The project's proposed diversion season, December 15 to March 30, is within the season recommended by the DFW-NMFS Draft Guidelines.
3. Based on the WAA prepared for this project, a February Median Flow was calculated to be 97 cubic feet per second (cfs) (see permit term under Special-Status Wildlife Species).
4. The project's proposed diversion is an existing, authorized POD under License 5674 and the place of storage is an existing, authorized reservoir under License 5368.
5. Water diversions will be screened in accordance with NMFS and DFW screening criteria (see permit term under Special-Status Fish Species).

## DISCUSSION

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?**

### Special-Status Plant Species

The Applicant requests appropriation and diversion of water from an existing POD on Maacama Creek. The proposed project would not change the amount of water diverted to and stored in the existing 156 af reservoir; but the Applicant is requesting the right to divert some water from Maacama Creek during winter from December 15 to March 30. Upgrading the existing diversion structure is unlikely to impact special-status plants because the area where the diversion structure is located is already highly disturbed and unlikely to support special-status plants due to the high level of disturbance that occurs there. The estimated diversion structure footprint and conveyance infrastructure is small and no vegetation would be removed at the POD.

No impacts to freshwater marsh, chaparral, oak woodland, or mixed evergreen forest habitats would occur as a result of implementing the project. Therefore, there would be no impacts to special-status plant species that are associated with these community types.

### Special-Status Wildlife Species

*California freshwater shrimp* – California freshwater shrimp are endemic to Marin, Napa, and Sonoma Counties. This species requires a stable, well-vegetated, low-gradient stream with year-round flow or with perennial pools if the shallow water areas go dry during summer. Specific habitat requirements for the freshwater shrimp include pools with undercut banks, overhanging grasses, sedges, blackberry, or willow and exposed adventitious willow or alder roots along the banks of the pools or within the bank undercut. Suitable habitat for freshwater shrimp is present in Maacama Creek in large deep pools that remain inundated through summer.

The Applicant's request to divert water from Maacama Creek would affect the amount of water available downstream of the diversion and could result in the drying of in-stream pools so they no longer remain inundated long enough through the spring, summer, and fall to support freshwater shrimp. Impacts on freshwater shrimp are potentially significant without mitigation. Implementing bypass flows and diversion timing restrictions during the December 15 through March 30 diversion season as specified in the permit terms below would reduce potential impacts on freshwater shrimp to less-than-significant levels because they would ensure that Maacama Creek continues to support inundated pools downstream of the POD through spring, summer, and fall.

*Northern red-legged frog, foothill yellow-legged frog, and northwestern pond turtle* - The existing 156 af reservoir provides potentially suitable habitat for northern red-legged frog and northwestern pond turtle. Operation of the reservoir will not change the extent of aquatic habitat available to these species in the reservoir because the current fluctuations in water levels would not change with the proposed project. The POU is outside the documented range of the red-legged frog and thus is not expected to occur in the reservoir. Foothill yellow-legged frog inhabit streams and are not expected to occur in the reservoir.

Maacama Creek supports large, deep pools that remain inundated through summer. These pools provide suitable habitat for northern red-legged frog, foothill yellow-legged frog, and northwestern pond turtle. The Applicant's request to divert water from Maacama Creek would affect the amount of water available downstream of the diversion and could result in the drying of in-stream pools so they no longer remain inundated long enough for northern red-legged frog, foothill yellow-legged frog, and northwestern pond turtle; these species require permanent or nearly permanent water sources as an essential habitat element. Therefore, impacts on northern red-legged frog, foothill-yellow-legged frog, and northwestern pond turtle are considered potentially significant without mitigation. Implementing bypass flows and riparian setback conditions as specified in the permit terms below would reduce potential impacts on northern red-legged frog, foothill-yellow-legged frog, and northwestern pond turtle.

Implementation of the permit term in section (c) below and the following terms to protect riparian and potential northern red-legged frog and northwestern pond turtle habitat would reduce impacts to a less-than-significant level and shall remain in effect as long as water is being diverted under any permit or license issued pursuant to A031050:

For the protection of riparian habitat along Maacama Creek, right holder shall:

- a. For riparian areas adjacent to the POD, establish a setback of at least 30 feet along the creek for any disturbance during upgrade of the POD or related equipment. The stream setback shall be measured from the top of the bank on the east side of the stream. In areas where existing agriculture allows and/or the riparian vegetation extends beyond 30 feet from the top of bank, the setback shall be extended to the riparian vegetation dripline. Restricted activities within the 30 foot setback area shall include grading, herbicide spraying, paving, new fencing (other than existing), permanent storage, and crop irrigation, with the exception for occasional equipment access necessary for continued operation of the vineyard or used to access or upgrade the POD. Permitted equipment access shall be limited to equipment necessary to support vineyard operation and maintenance activities and reasonable efforts will be made to minimize disturbance of vegetation and soils. Other than activity related to the upgrade of or access to the POD, the setback area shall be protected from disturbance to promote and encourage the recruitment of native riparian shrub and tree species. Planting native riparian species is also encouraged to provide additional protection to the stream system.
- b. No work on upgrades to the POD shall commence under this permit until an erosion control plan and implementation schedule, prepared by a licensed civil engineer, is submitted to and approved by the Deputy Director for Water Rights, prior to starting construction. Before storing water in the reservoir, right holder shall furnish evidence which substantiates that the erosion control plan has been implemented. Evidence includes photographs showing the project area vegetation and slopes.

For the protection of fish and wildlife, prior to upgrading the POD, right holder shall obtain and comply with all necessary permits, such as a lake or streambed alteration agreement with the Department of Fish and Wildlife: see the term in section c) under **Special-Status Fish Species**. Additionally, for the protection of fish and wildlife, right holder shall limit all diversions to the period December 15 through March 30 and:

- a. No water shall be diverted under this right unless the flow in Maacama Creek is at or above 97 cubic feet per second.

- b. No water shall be diverted under this right unless right holder is operating in accordance with a compliance plan, satisfactory to the Deputy Director for Water Rights. Said compliance plan shall specify how right holder will comply with the terms and conditions of this right. Right holder shall comply with all reporting requirements in accordance with the schedule contained in the compliance plan.
- c. No water shall be diverted under this water right unless right holder is bypassing the flow required by this water right by use of a passive bypass device.

Right holder shall provide the Division of Water Rights with evidence that the device has been installed with the first annual report submitted after device installation. Right holder shall provide the Division of Water Rights with evidence that substantiates that the device is functioning properly every year after device installation as an enclosure to the current annual report or whenever requested by the Division of Water Rights. Evidence required by this condition shall include current photographs of the system in place and a statement, signed by the right holder, certifying that the system is still operating as designed.

These requirements shall remain in effect as long as water is being diverted under any permit or license issued pursuant to Application 31050.

*White-tailed kite and other raptors* – Suitable nesting habitat for raptors is present on and adjacent to the project site. Nest disturbance has the potential to cause nest abandonment or the loss of eggs or chicks due to reduced parental care. Implementing the proposed project is not expected to result in any adverse effects on nesting raptors because the project would not involve tree removal or construction activities that would be likely to cause nest abandonment. Upgrades to the existing diversion structure would be restricted to the existing POD footprint and consist of replacing the existing pump and surface pipe in an area along Chalk Hill Road that is already subject to regular disturbance from traffic and roadside maintenance (i.e., mowing). Therefore, potential impacts on white-tailed kite and other nesting raptors would be less than significant.

*Sonoma tree vole* – The mixed evergreen forest immediately adjacent to the POU contains Douglas fir trees, a preferred habitat element for Sonoma tree voles, and other conifer trees that provide suitable habitat for Sonoma tree voles. Although Sonoma tree voles could be present in the mixed evergreen forest, project activities would not affect this species because mixed evergreen forest habitat would not be removed or degraded by proposed project activities. Therefore, there would be no impact on Sonoma tree vole.

### **Special-Status Fish Species**

Steelhead, coho salmon, Navarro roach, and Russian River tule perch occur in Maacama Creek at the location of the POD. Diversions from Maacama Creek associated with the proposed project could have effects on steelhead in the vicinity and downstream of the project site; reducing flows could reduce or degrade suitable habitat in Maacama Creek. However, the proposed project requests diversions in Maacama Creek only during the December 15 to March 30 diversion season preferred by DFW and NMFS, when streamflow is generally higher in coastal streams, and the proposed project would provide minimum bypass flows in Maacama Creek downstream at all times when that flow is available.

Based on the WAA prepared for the project (Napa Valley Vineyard Engineering 2008), existing projects in the Maacama Creek watershed divert approximately 4% of the estimated annual unimpaired runoff. CFII values

between 3.9 and 4.5% were calculated for the three measurement locations (points of interest or POI) for two different cases (scenarios) of demand: Case A demand does not include rights junior to the subject application and Case B which does. The NMFS and DFW Guidelines state the following concerning the 5% CFII threshold: “If the CFII is less than 5%, there is little chance of significant cumulative impacts (to instream flows) due to the diversion and the project does not require additional studies to assess these impacts.” These values are both less than the 5% CFII threshold set by DFW and NMFS for identifying when there is “little chance of significant cumulative impacts...” Under CEQA, impacts remaining below the 5% level of impairment would represent a less-than-significant adverse effect on the special-status fish species and, therefore, the flow-related impacts to anadromous fish in Maacama Creek are considered to be less than significant.

Approximately 5 miles of spawning habitat is estimated to be present in Maacama Creek. Rearing habitat could include the entire extent of creek available to juvenile special-status fish species, particularly those areas with sufficient cover, flow, and cool water temperatures. The protection of riparian vegetation and minimum bypass flows would maintain the spawning and rearing habitat functions available in Maacama Creek. Maacama Creek downstream of the POD is an important migration corridor for coho and steelhead that utilize upstream reaches for spawning and rearing. Appropriate minimum bypass flows would ensure passage to upstream spawning and rearing habitats.

Based on the riparian protection and minimum bypass flow permit terms (see above), the proposed project could make diversions up to the requested amounts from Maacama Creek without causing significant adverse impacts to steelhead, coho, or aquatic habitat in Maacama Creek or the Russian River. For the above reasons, the proposed project would result in less-than-significant impacts on the special-status fish species (coho salmon, steelhead, Navarro roach, and Russian River tule perch).

**b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?**

In 2000, it was determined that Maacama Creek had a moderate level of canopy cover in approximately 139.8 acres of riparian forest (SRCD 2004). Although the creek is wide, there is extensive edge habitat with overhanging branches. Riparian vegetation provides important habitat for many wildlife and plant species. Riparian vegetation also provides ecosystem functions and water quality benefits including shade and cover; inputs of large woody debris; minimization of erosion potential; filtration of sediment, nutrients, and pesticides; and maintenance of channel form and complexity. Project elements that could affect the riparian corridor along Maacama Creek consist of the water diversion structure. However, the water diversion structure is existing and there would be no loss of riparian vegetation from the upgrades to the POD due to the riparian protection term described above.

The proposed 10-acre vineyard located at the northern end of the existing reservoir is a minimum of 500 feet from the unnamed tributary to Franz Creek that currently supplies water to the existing reservoir. Subsequent planting of the 10-acre area was performed in accordance with a VESCO permit and application, and associated conservation practices and best management practices (BMPs). The riparian corridor along the segment of the unnamed tributary adjacent to where the existing POD is located is similarly-vegetated as the segments that are both upstream and downstream of the project site. Because the POD is existing and there would be no trees removed as a result of the improvements or the development of the vineyards, with inclusion of the mitigation

terms under a) above there would be no impact to riparian habitat from the proposed project. Any new planting or replanting of vineyards would require a VESCO permit and application, and the use of recognized conservation practices and BMPs, including measures that address setbacks from watercourses and the removal or disturbance of trees and other vegetation.

Additionally, the minimum bypass flow permit term (see above) to protect special-status fish would also protect existing riparian vegetation and promote the natural regeneration of riparian vegetation in the future. A term that proposes development and implementation of erosion control measures is provided above to minimize erosion potential and sediment inputs into downstream water bodies.

**c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

Operation of the POD at Maacama Creek, as proposed under this application, would disrupt an intermittent stream that is considered to be jurisdictional waters of the United States by USACE. If no mitigation were applied, this impact on waters of the United States would be considered potentially significant. Implementing the permit conditions presented below, would reduce all impacts on waters of the United States to a less-than-significant level.

The following permit term, substantially as follows, shall be included in any permit or license issued pursuant to A031050. Implementation of the following term to protect 404 jurisdictional habitat would reduce impacts to a less-than-significant level:

No water shall be diverted or used under this right, and no construction related to such diversion shall commence, unless right holder has obtained and is in compliance with all necessary permits or other approvals required by other agencies. If an amended right is issued, no new facilities shall be utilized, nor shall the amount of water diverted or used increase beyond the maximum amount diverted or used during the previously authorized development schedule, unless right holder has obtained and is in compliance with all necessary requirements, including but not limited to the permits and approvals listed in this term.

Within 90 days of the issuance of this right or any subsequent amendment, right holder shall prepare and submit to the Division of Water Rights a list of, or provide information that shows proof of attempts to solicit information regarding the need for, permits or approvals that may be required for the project. At a minimum, right holder shall provide a list or other information pertaining to whether any of the following permits or approvals are required: (1) lake or streambed alteration agreement with the Department of Fish and Wildlife (Fish & G. Code, § 1600 et seq.); (2) Department of Water Resources, Division of Safety of Dams approval (Wat. Code, § 6002); (3) Regional Water Quality Control Board Waste Discharge Requirements (Wat. Code, § 13260 et seq.); (4) U.S. Army Corps of Engineers Clean Water Act section 404 permit (33 U.S.C. § 1344); and (5) local grading permits.

Right holder shall, within 30 days of issuance of any permits, approvals or waivers, transmit copies to the Division of Water Rights.

**d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

Wildlife corridors are features that provide connections between two or more areas of habitat that would otherwise be isolated and unusable. Drainages, creeks, or riparian areas are often used by wildlife as movement corridors as these features can provide cover and access across a landscape. Maacama and Franz Creeks, along with their associated riparian vegetation corridors, provide dispersal opportunities for terrestrial and aquatic wildlife species. The Applicant's request to divert water from Maacama Creek could affect the amount of water available downstream of the diversion, which could affect riparian vegetation and reduce flow below the minimum required during critical times of year for fish.

Because there are fish that occur in Maacama Creek at the location of the diversion facility, it is possible that juveniles could become entrained during diversions. Entrained fish could be injured or killed in the diversion structure. This would be a potentially significant impact. As a result, a fish screen that complies with NMFS screening criteria would be required. An appropriate fish screen permit term (below) will ensure that harm to the special-status species from requested water diversions is prevented and is reduced to a less-than-significant level. Since the intake is small relative to the size of the creek, there would be no disturbance to fish passage and therefore fish passage facilities are not required. The following permit term shall be substantially included in any permit or license issued pursuant to A031050. Implementation of the following term to protect fish species would reduce impacts to a less-than-significant level:

No water shall be diverted under this right unless right holder is operating the water diversion facility for the POD with a fish screen on the intake to the diversion structure satisfactory to the Deputy Director for Water Rights. The fish screen shall be designed and maintained in accordance with the screening criteria of the National Marine Fisheries Service. Right holder shall provide evidence that demonstrates that the fish screen is in good condition with the annual report and whenever requested by the Division of Water Rights.

Because instream flows are critical for maintaining riparian communities and fish migration, spawning, rearing, and passage in Maacama Creek, mechanisms for ensuring that bypass flows would be maintained, and permitted rates of diversion would not be exceeded, are needed for the proposed project. Mechanisms such as restricting diversions to time periods when streamflows are higher than the minimum bypass flow and a requirement for the construction/operation of a passive bypass facility are provided in the permit terms listed above under a). This impact is considered less than significant with implementation of permit terms listed above.

**e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

The project does not conflict with local policies or ordinances protecting trees or other biological resources. Therefore, no impact would occur.

**f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

The POU is not within an area subject to an adopted habitat conservation plan, natural community conservation plan, or other approved, local, regional, or state habitat conservation plan. Therefore, the project would not conflict with any such plans and no impact would occur.

## 5. CULTURAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>V. Cultural Resources. Would the project:</b>				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### ENVIRONMENTAL SETTING

This setting description and subsequent environmental analysis is based on background research and subsequent archaeological field surveys conducted on the project site on July 31, 2009. The following provides a brief summary of the results of the literature and records search and the field inspection.

### Regulatory Setting

For the purposes of CEQA, a historical resource is a resource listed in, or determined eligible for listing in, the California Register of Historic Resources. When a project would affect an archaeological site, a determination must be made whether the site is a historical resource. This is defined as any site that:

- (A) Is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California, retains a sufficient degree of integrity; and
- (B) Meets any of the following criteria:
1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
  2. Is associated with the lives of persons important in our past;
  3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
  4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, the State CEQA Guidelines require consideration of unique archaeological sites (Section 15064.5). If an archaeological site does not meet the criteria for inclusion on the CRHR but does meet the definition of a unique archeological resource as outlined in the PRC Section 21083.2, it may be treated as a significant historical resource.

## **Cultural Setting**

The earliest well-documented entry and spread of humans into California occurred at the beginning of the Paleo-Indian Period 10,000 years ago. Prehistoric adaptations over the ensuing centuries have been identified in the archaeological record by numerous researchers working in the area since the early 1900s, as summarized by Fredrickson (1974) and Moratto (1984). Due to the plentiful resources and temperate climate in the project region, this area was well populated prehistorically.

The project area lies within the Wappo prehistoric sphere of influence. The Wappo were generally considered to be a relatively peaceful group, culturally influenced by the groups surrounding them. The Wappo lived in villages usually located on a creek or other water source. Villages included one or two sweathouses as well as houses of varying size. Village chiefs might be elected or appointed based on the organization of the individual village. Some villages even had multiple chiefs, each with different spheres of influence (Sawyer 1978). Seasonal travel to Clear Lake, the Russian River, the Pacific coast and Napa Glass Mountain was common.

Sonoma County was one of the original 27 counties; the coastline was first explored by the Vizcaino expedition of 1602-3, and by other Spaniards beginning in 1775 (Hoover et al. 1990). Russians had established fur trading colonies in Alaska and the Aleutian Islands by the late eighteenth century and looked to California as a source of food and other supplies, leading to the founding of colonies in Bodega Bay and the Salmon Creek Valley in 1809, and at Fort Ross in 1812. The presence of Russian colonists stimulated Spanish authorities to focus settlement in counties north of San Francisco. In 1823, President James Monroe warned Europeans not to try to extend territorial claims in the New World, and in 1824 the Russians agreed to limit future settlements to Alaska; the combined effect of the Monroe Doctrine and the decline of the sea otter population led the Russians to withdraw their colonists from California in 1839, and in 1841 the Fort Ross property was sold to John Sutter.

## **METHODS**

The current project site was inventoried for cultural resources in 1981 (An Archaeological Survey of the 1.4 Acre S. Zellerback Property, 14350 Chalk Hill Road, Healdsburg, Sonoma County, California [White 1981]) and 1995 (A Cultural Resources Study of 121.3 Acres at 14800 Young Road, Healdsburg, Sonoma County, California [Jablonowski and Yang 1995]). During the course of those surveys, no cultural resources were identified. These surveys and results were identified during a record search performed at the Northwest Information Center (NWIC) of the California Historical Resources Information System in early July 2009. The NWIC identified several other previous cultural resources studies in the immediate vicinity, including:

1. A Report on the Archaeological Survey of 90 Acres Along the East Bank of the Russian River in the Southern Portion of the Alexander Valley, Sonoma County (Offerman 1979);
2. An Archaeological Survey of Portions of the Proposed PG & E 230 kV Transmission Line from Castle Rock Junction to Lakeville Substation, Sonoma County, California (Fredrickson, Quinn, and Rippey 1979);

3. An Archaeological Study for Two Building Envelopes and Access Roads for the Doty Subdivision in Southern Alexander Valley, Sonoma County, California (Bramlette 1984);
4. An Archaeological Study of the Lands of Kane at 17433 Young Road, Healdsburg, Sonoma County, California (Stewart 1985);
5. An Archaeological Investigation of 266+ Acres Located at 13725 and 13427 Chalk Hill Road, Near Healdsburg, Sonoma County, California (Villemaire 1987);
6. An Archaeological Investigation of the Proposed Minor Subdivision (MNS 87-020) at 14825 Chalk Hill Road, Healdsburg, California (Wilbur 1987);
7. Native American Use of Non-Quarry Obsidian in Northern Sonoma County: A Preliminary Assessment (Psota 1994);
8. A Cultural Resource Survey of the Proposed Stone Street Winery, near Healdsburg, Sonoma County, California (Werner 1995);
9. A Cultural Resource Study for a Proposed New Winery and Expanded Leach Field at 15001 Chalk Hill Road, Healdsburg, Sonoma County, California (Beard 1998);
10. Plan for Evaluation of Cultural Resources, Santa Rosa Geysers Recharge Project, Sonoma County, California (Gerike and Gillies 2000);
11. Cultural Resources Survey Report, the Santa Rosa Geysers Recharge Project, Alternative Alignments, Sonoma County, California (LSA Associates 2000);
12. An Archaeological Survey for the Flora Subdivision, Healdsburg, Sonoma County, California (Origer 1988);
13. A Cultural Resources Study of the Property at 13420 Chalk Hill Road, Healdsburg, Sonoma County, California (Schroder and Beard 2004).

A contact letter was sent to the Native American Heritage Commission (NAHC) to request a search of the Sacred Lands Files and to ask for a list of individuals or groups who might have information regarding cultural resources within the project site. The NAHC response failed to identify any Native American cultural resources in the immediate project area. A list of four contacts was included with the response, and letters to those individuals were sent out on July 27, 2009; to date, no response has been received.

## DISCUSSION

### **a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?**

There were no historic resources identified on the project site; therefore, there is no impact to the significance of a historic resource.

**b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?**

The field survey conducted by AECOM failed to identify any new archaeological resources within the POU. The potential exists, however, for previously unknown resources to be discovered during construction activities in previously undisturbed areas. This would be considered a potentially significant impact. Implementation of the permit term below would reduce this potential impact to a less-than-significant level. For the protection of cultural resources, the following permit terms shall be included in any water right permits or licenses for A031050:

- a) Should any buried archeological materials be uncovered during project activities, such activities shall cease within 100 feet of the find. Prehistoric archeological indicators include: obsidian and chert flakes and chipped stone tools; bedrock outcrops and boulders with mortar cups; ground stone implements (grinding slabs, mortars, and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations, privy pits, wells and dumps; and old trails. The Deputy Director for Water Rights shall be notified of the discovery and a professional archeologist shall be retained by the right holder to evaluate the find and recommend appropriate mitigation measures. Proposed mitigation measures shall be submitted to the Deputy Director for Water Rights for approval. Project-related activities shall not resume within 100 feet of the find until all approved mitigation measures have been completed to the satisfaction of the Deputy Director for Water Rights.
- b) If human remains are encountered, then the right holder shall comply with CEQA Guidelines Section 15064.5(e)(1) and the Health and Safety Code Section 7050.5. All project-related ground disturbance within 100 feet of the find shall be halted until the county coroner has been notified. If the coroner determines that the remains are Native American, the coroner will notify the Native American heritage Commission to identify the most-likely descendants of the deceased Native Americans. Project-related ground disturbance in the vicinity of the find shall not resume until the process detailed under CEQA Guidelines Section 15064.5(e) has been completed and evidence of completion has been submitted to the Deputy Director for Water Rights.

**c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

The POU is located within Holocene-age (11,000 years before present and younger) alluvial deposits (Wagner and Bortugno 1999). To be considered a fossil, an object must be more than 11,000 years old. Therefore, project implementation would have no impact on unique paleontological resources.

**d) Disturb any Human Remains**

The record search conducted at the Northwest Information Centre (NWIC) and the field survey failed to identify any burial sites in the project site. The potential exists, however, for previously unknown human remains to be discovered during construction. Mitigation is required to be implemented in the event that previously unknown human burial sites are encountered on the project site. This would be considered a potentially significant impact, but implementation of the permit terms above in (b) would reduce this potential impact to a less-than-significant level.

## 6. GEOLOGY AND SOILS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>VI. Geology and Soils. Would the project:</b>				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### ENVIRONMENTAL SETTING

As shown on fault maps prepared by the U.S. Geological Survey (Map 123-39), the Maacama fault zone has the potential to extend across or is located near the POU and earthquake activity has occurred recently and within 25 miles of the project site. In addition, the POU is located in an Alquist-Priolo fault-rupture hazard zone.

### DISCUSSION

- a) **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**
- i) **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or**

**based on other substantial evidence of a known fault? (Refer to California Geological Survey Special Publication 42.)**

As stated previously, the Maacama fault zone has the potential to extend across or is located near the POU, and earthquake activity has occurred recently and within 25 miles of the project site. In addition, the POU is located in an Alquist-Priolo fault-rupture hazard zone. However, implementation of the proposed project would not result in construction of housing or other habitable structures. Implementation of the proposed project would not involve any actions that would expose people or structures to substantial adverse effects from a rupture of a known earthquake fault because the project is a water rights project focused on the use of water and upgrades to existing structure and conveyance facilities to allow for water to be discharged directly into an existing 156 af capacity reservoir. Furthermore, water diversion would occur at an existing facility. Therefore, the proposed project would not expose people or structures to adverse effects of a rupture. No impact would occur..

**ii) Strong seismic ground shaking?**

Please refer to discussion under question VI. (a)(i) above. The proposed project would not have the ability to expose people or structures to adverse effects of strong seismic ground shaking. No impact would occur.

**iii) Seismic-related ground failure, including liquefaction?**

Please refer to discussion under question VI. (a)(i) above. The proposed project would not have the ability to expose people or structures to adverse effects from seismic related ground shaking or failure. No impact would occur.

**iv) Landslides?**

As shown in the Sonoma County Disaster Relief Map (Sonoma County 1998), the POU is located in an area of Moderate-to-High potential for landslides. As discussed previously, the POU is located near a fault zone and earthquake activity has occurred recently and in the project vicinity which could perpetuate a landslide or liquefaction. However, implementation of the proposed project would not result in construction of housing or other habitable structures. Furthermore, water diversion would occur at an existing facility. Therefore, the proposed project would not have the ability to expose people or structures to adverse effects of a landslide or from ground failure including liquefaction. No impact would occur.

**b) Result in substantial soil erosion or the loss of topsoil?**

The proposed project would involve agricultural activities, which include the maintenance of soil productivity.

Soil types on those portions include Felta very gravelly loam, 5 to 15% slopes (FaD) and Laniger loam, 30 to 50% slopes (LaF). The portions of the POU that would be planted as vineyards are primarily flat in topography.

The soil type adjacent to the 10-acre portion (that is proposed for planting) includes Felta very gravelly loam, 30 to 50% slopes (FaF). Both the FaF and LaF soil types are rated as having a severe erosion hazard and the FaD soil type as having a slight erosion hazard. All the soil types are rated as having a low potential for expansive qualities. Although the soils on and adjacent to the planting area have the potential for erosion, activities (e.g., grading, planting vineyards) would not affect surrounding sloped areas (i.e., hills). Conversion of 10 acres to vineyard would require temporary soil disturbance. The potential would exist for sediment mobilization during

construction and after construction from unstabilized areas. The Sonoma County Agricultural Commission's Agricultural Division administers the Sonoma County Grading, Drainage, and Vineyard and Orchard Site Development Ordinance, known as VESCO. BMPs and riparian setbacks are required to be implemented in order to protect the environment and watersheds of the county. The Applicant obtained a VESCO permit in 2000 from the Sonoma County Agricultural Commissioner and the Sonoma County Permit and Resource Management Department (PRMD). The 10-acre parcel was prepared and planted in spring 2000 following the submittal of the original petition and was developed as vineyard at the time of the surveys. Compliance with the erosion control plan permit term in section **4. Biological Resources** (a) above, and the measures incorporated within an erosion and sedimentation control plan as required by Sonoma County and compliance with conditions of the Sonoma County grading permit and the requirements of the Sonoma County VESCO would reduce potential soil erosion impacts associated with the 10-acre parcel, as specified in permit requirements, to a less-than-significant level.

- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?**

Please refer to discussion under question VI. (a)(iv) above. Activities associated with the proposed project would not have the ability to expose people or structures to adverse effects from unstable soils. No impact would occur.

- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?**

Soil types, as described in (b), within the existing POU are rated as having a low potential for expansive qualities. In addition, soils on the 10-acre area proposed for planting do not exhibit expansive qualities. Therefore, implementation of the proposed project would not have the potential to affect expansive soils which could result in landslides or create risks to life or property. No impact would occur.

- e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?**

The proposed project does not include any septic tanks or alternative wastewater disposal systems. Therefore, the proposed project would result in no impacts related to soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems. No impact would occur.

## 7. GREENHOUSE GAS EMISSIONS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>VII. Greenhouse Gas Emissions. Would the project:</b>				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### ENVIRONMENTAL SETTING

Constituent gases of the Earth's atmosphere called atmospheric greenhouse gases (GHGs) play a critical role in the Earth's radiation budget by trapping infrared radiation emitted from the Earth's surface, which would have otherwise escaped to space. Prominent GHGs contributing to this process include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), ozone, water vapor, nitrous oxide (N<sub>2</sub>O), and chlorofluorocarbons (CFCs). This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. Anthropogenic emissions of these GHGs in excess of natural ambient concentrations are responsible for the enhancement of the greenhouse effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Global warming—inducing emissions of these gases are attributable to human activities associated with industrial/manufacturing, utilities, transportation, residential, and agricultural sectors (CEC 2006a).

Global warming is a global problem, and GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Worldwide, California is the 12th–16th largest emitter of CO<sub>2</sub>, and is responsible for approximately 2% of the world's CO<sub>2</sub> emissions (CEC 2006a, 2006b). In 2004, California produced 492 million gross metric tons of carbon dioxide-equivalent (CEC 2006a).

In September 2006, California Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions, and is the first of its kind worldwide. AB 32 applies to major stationary sources of emissions only, but acknowledges the urgency of this potential threat to the environment.

### DISCUSSION

#### a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The proposed project would not involve any activities that generate substantial GHG emissions. Although the proposed project involves potential upgrades (such as installation of a rehabilitated or replacement pump motor) to pump structures and conveyance facilities, these activities would be temporary and equipment used for water

conveyance would already be permitted through the Northern Sonoma County Air Pollution Control District (NSAPCD) stationary source permitting process. The permitting process would ensure that any required GHG emission thresholds and controls would be in place and monitored throughout the life of the conveyance facilities. In addition, any new structures or facilities that generate GHG emissions would be required to comply with all regulations of the NSAPCD including those applicable to GHG emissions. The proposed vineyard development could generate GHG emissions from additional vineyard cultivation operations; however, these operations would be similar to existing conditions and additional grape vines would increase carbon sequestration. It is therefore not anticipated that increases in planted vines would generate substantial harmful GHG emissions beyond existing conditions. For these reasons, implementation of the proposed project would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. This impact would be less than significant.

**b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

The proposed project would not generate any long-term sources of substantial GHG beyond existing conditions and any additional facilities would be permitted and monitored by the NSAPCD to ensure compliance. As such, the proposed project would not conflict with the successful implementation of AB32, the AB32 Scoping Plan, and Executive Order S-14-08. Similarly, the proposed project would not conflict with any other applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Because the project would not conflict with any applicable plan, policy, or regulation for GHG reduction or managing global climate change, this impact would be less than significant.

## 8. HAZARDS AND HAZARDOUS MATERIALS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>VIII. Hazards and Hazardous Materials. Would the project:</b>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### ENVIRONMENTAL SETTING

According to the California Department of Toxic Substances Control Envirostor database and the EPA EnviroMapper database, the POE is not identified as a hazardous materials site.

### DISCUSSION

#### a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Implementation of the proposed project does not involve any actions that would involve a routine transport, use, or disposal of hazardous materials. Activities associated with upgrades to the existing pump and conveyance

facilities are not anticipated to involve any large amount of construction equipment or workers. However, activities associated with vineyard operations could involve the use and storage of hazardous materials (e.g., fertilizers, insecticides). In addition, use of hazardous materials for vineyard operations would be required to comply with Sonoma County Agricultural Commissioner's Office requirements. Compliance with the usage and safe handling requirements identified by the manufacturer along with compliance with federal, state, and local regulations would limit the potential for an accident condition to occur that involves the release of hazardous materials into the environment. For these reasons, implementation of the proposed project would not create a significant hazard to the public related to hazardous materials. This potential impact is considered to be less than significant.

**b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?**

Please refer to discussion under question VII. (a) above. Implementation of the proposed project would not create a significant hazard to the public involving the release of hazardous materials. No impact would occur.

**c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

Please refer to discussion under question VII. (a) above. The closest school to the POU (i.e., Alexander Valley Elementary School) is located more than 2 miles to the northwest. Implementation of the proposed project would not create a hazard to a school. No impact would occur.

**d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

Please refer to discussion under question VII. (a) above. The POU is not included on any list of hazardous materials sites. No impact would occur.

**e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**

The closest airport to the POU (i.e., Healdsburg Municipal Airport) is located approximately 6 miles to the northwest. Implementation of the proposed project would not create a hazard to airport operations. No impact would occur.

**f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

Please refer to discussion under question VII. (e) above. Implementation of the proposed project would not create a hazard to airport operations. No impact would occur.

**g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

The proposed project would not involve any activities that could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The limited construction activities associated with upgrades to the existing point of diversion structure and conveyance facilities would occur completely off of roadways that provide access in the project area. Furthermore, construction truck traffic to and from the site would be minimal. No impact would occur.

**h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

Although the POU is located in an area with vegetation that could pose a threat for wildland fires, the proposed project would not involve activities likely to start a fire. Therefore, implementation of the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. No impact would occur.

## 9. HYDROLOGY AND WATER QUALITY

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>IX. Hydrology and Water Quality. Would the project:</b>				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Result in inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### ENVIRONMENTAL SETTING

The proposed project area is in the Russian River hydrologic unit “Middle Russian River.” The North Coast RWQCB lists the Russian River as 303(d) impaired for sedimentation/siltation and temperature caused by a variety of agricultural and residential/commercial development sources (SWRCB 2006). Project activities would potentially occur in or near Maacama Creek, which is tributary to the Russian River watershed. A WAA was prepared for A031501 by Napa Valley Vineyard Engineering, Inc., dated October 15, 2008. As described above in Section 4. *Biological Resources*, under the discussion for special-status fish species, the WAA analyzed the

impairment of flows at the three POIs in the context of the watershed and February Median Flows according to the guidelines set forth by NMFS and DFW. CFII values between 3.9 and 4.5% were calculated for the three POIs.

## DISCUSSION

### a) **Violate any water quality standards or waste discharge requirements?**

The proposed project would involve the use of agricultural-related chemicals (e.g., fertilizers, pesticides) during operation of the proposed 10 acres of vineyard (tilled and unplanted vineyard at the time of CEQA baseline). Compliance with the usage and safe handling requirements identified by the manufacturer along with compliance with federal, state, and local regulations would limit the potential for an accident condition to occur that involves the release of hazardous materials into the environment. Use of these chemicals would also be required to comply with Sonoma County Agricultural Commissioner's Office requirements. Therefore, water quality impacts related to use of agricultural chemicals would be less than significant.

Activities associated with upgrading the pump at the POD and conveyance facilities, and vineyard development, are not anticipated to involve any large amount of construction equipment or workers. However, the potential still exists for the use of some construction equipment, which use small amounts of hazardous materials such as oils, fuels, and other potentially flammable substances. Upgrades to the pump at the POD would occur adjacent to waters which could result in the potential release of sediment or spillage of these substances into Maacama Creek. Therefore, some potential exists for the spill of these substances into waters during upgrades of the pump. Impacts to water quality as a result of activities related to upgrades of the pump could be potentially significant. However, inclusion of the permit term in section **4. Biological Resources** (c) and the following permit term, substantially as follows, in any water right permit or license issued pursuant to A031050 would reduce potential impacts to water quality to a less-than-significant level:

- ▶ Right holder shall prevent any debris, soil, silt cement that has not set, oil, or other such foreign substance from entering into or being placed where it may be washed by rainfall runoff into the waters of the State.

### b) **Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?**

The proposed project does not involve the use of groundwater resources or include any activities that would directly affect groundwater or result in any substantial indirect effects on groundwater supplies or recharge. The irrigation of vineyard areas with appropriated water would be expected to slightly increase the amount of water potentially percolating to groundwater. This is considered a less than significant impact.

### c) **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?**

The upgrade of the POD in Maacama Creek as an additional source for 156 af of water (currently authorized under License 5368) requested under this application is not anticipated to substantially alter the existing drainage

pattern of the site or area. Water diverted from Maacama Creek would be used on agricultural land for operation of a proposed 10 acres of vineyard (tilled and unplanted vineyard at the time of CEQA baseline) and existing 122 acres of vineyard. Development of the vineyard would not include any impervious surfaces that could result in altering the drainage pattern of the project site.

Activities associated with upgrading the pump at the POD and conveyance facilities are not anticipated to involve any large amount of construction equipment or workers. However, construction activities associated with the pump upgrades would occur adjacent to waters. Therefore, some potential exists for potentially significant short-term erosion and siltation impacts to Maacama Creek during pump upgrades. However, impacts related to siltation and erosion would be reduced to a less-than-significant level with implementation of permit terms described above under item a).

**d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?**

Please refer to discussion under question IX. (c) above. Implementation of the proposed project would not substantially alter drainage patterns. This potential impact would be less than significant.

**e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

Please refer to discussion under question IX. (c) above. Implementation of the proposed project would not substantially contribute runoff water. This potential impact would be less than significant.

**f) Otherwise substantially degrade water quality?**

Please refer to discussion under question IX. (a) above. Impacts to water quality as a result of activities related to the pump upgrade could be potentially significant. However, impacts to water quality would be reduced to a less-than-significant level with implementation of the permit terms above.

**g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?**

The project would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. No impact would occur.

**h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?**

Please refer to discussion under question VIII. (g) above. Implementation of the proposed project would not place structures that would impede or redirect flood flows within a 100-year flood hazard area. No impact would occur.

**i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?**

Please refer to discussion under question VIII. (g) above. Implementation of the proposed project does not include any components or activities that would expose people or structures to a significant risk of loss, injury, or death from flooding. No impact would occur.

**j) Result in inundation by seiche, tsunami, or mudflow?**

The project would not result in inundation by seiche, tsunami, or mudflow because it is geographically isolated from these types of events. No impact would occur.

## 10. LAND USE AND PLANNING

ENVIRONMENTAL ISSUES		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>X.</b>	<b>Land Use and Planning. Would the project:</b>				
a)	Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### ENVIRONMENTAL SETTING

The project site is zoned as Land Extensive Agricultural and is designated in the Sonoma County General Plan as Land Intensive Agriculture. The POU is currently in agricultural production as vineyards.

### DISCUSSION

**a – c)** The proposed project would not change the land uses in the project area (e.g., agricultural) and would not conflict with any land use plan or policies. There would be no impact.

## 11. MINERAL RESOURCES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XI. Mineral Resources. Would the project:</b>				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### ENVIRONMENTAL SETTING

There are no known mineral resources on the project site.

### DISCUSSION

**a – b)** The limited amount of earth-moving activity associated with the proposed project would have no direct or indirect effect on known mineral resources or any delineated mineral resource recovery sites. There would be no impact.

## 12. NOISE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XII. Noise. Would the project result in:</b>				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### ENVIRONMENTAL SETTING

The closest airport to the POU (i.e., Healdsburg Municipal Airport) is located approximately 6 miles to the northwest. Rural residences surround the POU and are located within one-half mile of the project site.

### DISCUSSION

**a – f)** Activities associated with development of the 10-acre vineyard and with the pump and conveyance facilities upgrade would generate temporary, short-term increases in noise levels at the POU and POD for the duration of the construction period. Operation of the proposed vineyard would generate long-term noise levels typical of the agricultural area that the POU is located in. In addition, the upgraded POD structure and conveyance facilities would continue to generate similar noise levels as existing conditions. Overall, noise levels would remain below standards set in the Sonoma County General Plan. For these reasons, noise impacts from the temporary construction and long-term operation would be less than significant or cause no impact.

## 13. POPULATION AND HOUSING

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XIII. Population and Housing. Would the project:</b>				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### ENVIRONMENTAL SETTING

The project area is rural in nature, with scattered housing and low densities of populations. The land is currently in agricultural production as vineyards along with supporting rural residences, farm-related structures, and open spaces.

### DISCUSSION

**a – c)** The proposed project would involve diverting water to an existing reservoir, developing a 10-acre vineyard, and upgrading the existing POD pump structure and conveyance facilities. No impacts on population growth or increased housing would occur as a result of implementing the proposed project. There would be no impact.

## 14. PUBLIC SERVICES

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XIV. Public Services. Would the project:</b>				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### ENVIRONMENTAL SETTING

The project area is served by Sonoma County public services.

### DISCUSSION

a) The proposed project would involve diverting water to an existing reservoir, planting 10 acres of vineyard, and upgrading the existing pump and conveyance facilities. The project would not generate a need for new or physically altered governmental facilities. There would be no impact.

## 15. RECREATION

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XV. Recreation. Would the project:</b>				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### ENVIRONMENTAL SETTING

There are no recreational facilities at the project site. The surrounding project area is primarily private lands without public recreational facilities.

### DISCUSSION

**a – b)** The proposed project would involve diverting water to an existing reservoir, planting 10 acres of vineyard, and upgrading the existing pump and conveyance facilities. The proposed project would not generate a need for new or an expansion of recreational facilities. There would be no impact.

## 16. TRANSPORTATION/TRAFFIC

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XVI. Transportation/Traffic. Would the project:</b>				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exceed, individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### ENVIRONMENTAL SETTING

The project area is rural in nature. The POU is located along Chalk Hill, Thomas, and Young Roads. Regional access to the POU is readily available from both Chalk Hill and Young Roads. These are rural, two-lane county roads without high traffic volumes.

### DISCUSSION

**a – g)** The proposed project would not require any change in transportation systems. During project construction, including the 10 acres of vineyard and upgrades to existing pump and conveyance facilities, and during routine vineyard operations, a temporary and minor increase in traffic volumes could occur along Chalk Hill and Young Roads, or on other minor roads. However, this minor increase in traffic would not affect roadway operations in the project area because the number of new trips generated by the project would be minimal. In addition, the temporary and minor increase in truck traffic that could result during project construction and during routine vineyard operations would not require any changes or upgrades to the local road system. There would be a slight increase in traffic during construction resulting in a less-than-significant impact; otherwise there would be no impact.

## 17. UTILITIES AND SERVICE SYSTEMS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XVII. Utilities and Service Systems. Would the project:</b>				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### ENVIRONMENTAL SETTING

The rural project area is served by the county and Pacific Gas & Electric Company facilities.

### DISCUSSION

**a – g)** The proposed project would involve diverting water to an existing off-stream reservoir, planting 10 acres of vineyard, and upgrading the existing pump and conveyance facilities. The project would not generate a need for new or expansion of any utility and service systems. There would be no impact.

## 18. MANDATORY FINDINGS OF SIGNIFICANCE

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XVIII. Mandatory Findings of Significance.</b>				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Authority: Public Resources Code Sections 21083 and 21087. Reference: Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.3, 21093, 21094, 21151; <i>Sundstrom v. County of Mendocino</i> , 202 Cal.App.3d 296 (1988); <i>Leonoff v. Monterey Board of Supervisors</i> , 222 Cal.App.3d 1337 (1990).				

### DISCUSSION

- a) **Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?**

With the permit terms proposed by the State Water Board and accepted by the Applicant, the proposed project would have less-than-significant impacts on the environment. Please refer to the earlier sections in this Initial Study for the full texts of the special water right permit terms that minimize potentially significant environmental impacts to less-than-significant levels.

**b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)**

The greatest potential for significant cumulative effects is related to impacts to biological resources, especially anadromous and other special-status fish. The CFII calculations, however, consider cumulative watershed effects by addressing all impacts upstream of each POI. As stated above under “Biological Resources,” a CFII value below 5% is not considered to represent a potential “substantial adverse effect” on anadromous fish. The minimum bypass flow of 97 cfs (representing the February Median Flow as calculated in the WAA for this project) on Maacama Creek, and the limitation of stream diversions to the period December 15 through March 30, prevents impacts to fish and precludes any flow-related incremental effect that is considered to be cumulatively considerable. Consequently, the proposed project would not make a cumulatively considerable incremental contribution to the significant cumulative impact on anadromous fisheries in this watershed or region.

No past, current, or probable future projects were identified in the project vicinity that, when added to project-related impacts, would result in significant cumulative impacts on any other environmental resources. Furthermore, the proposed project would not make a cumulatively considerable incremental contribution to any significant cumulative impacts for any resources affected by past, current, or probable future projects in the project vicinity.

**c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?**

With the permit terms proposed by the State Water Board and accepted by the Applicant, the proposed project would have less-than-significant impacts on the environment. The proposed project would not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. Please refer to the earlier sections in this Initial Study for the full texts of the special water right permit terms that minimize potentially significant environmental impacts to less-than-significant levels.

### III. DETERMINATION

On the basis of this initial evaluation

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A NEGATIVE DECLARATION will be prepared. ☒

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. ☐

Prepared By:

ORIGINAL SIGNED BY ASHEPHARD

APR 04 2013

\_\_\_\_\_  
Andrea Shephard, Project Manager, AECOM

\_\_\_\_\_  
Date

Reviewed By:

ORIGINAL SIGNED BY BPAYNE

APR 05 2013

\_\_\_\_\_  
Beth Payne, Environmental Scientist, Russian River Watershed Unit

\_\_\_\_\_  
Date

ORIGINAL SIGNED BY KLEE

APR 17 2013

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Katy Lee, Senior, Russian River Watershed Unit  
Division of Water Rights

\_\_\_\_\_  
Date

**Authority:** Public Resources Code Sections 21083, 21084, 21084.1, and 21087.

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